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AUTHOR	Smyth, Emer; Gangl, Markus; Raffe, David; Hannan, Damian F.; McCoy, Selina
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ABSTRACT

This project aimed to develop a more comprehensive conceptual framework of school-to-work transitions in different national contexts and apply this framework to the empirical analysis of transition processes across European countries. It drew on these two data sources: European Community Labor Force Survey and integrated databases on national school leavers' surveys in France, Ireland, the Netherlands, Scotland, and Sweden. Three broad types of national systems were identified: countries with extensive vocational training systems at upper secondary level, linked to occupational labor markets (Germany, the Netherlands); countries with more general education systems with weaker institutionalized linkages to the labor market (Ireland); and Southern European (SE) countries with less vocational specialization and lower overall attainment than the other groups. In

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"vocational" systems, young people tended to make a smoother transition into the labor market, while those in SE countries found it more difficult to achieve a stable employment position. Educational level was highly predictive of transition outcomes, which varied by gender, social class, and national origin. Early educational failure had serious negative consequences for young people across all systems. Sixty-three references are listed. A separate annex contains these 17 working papers: "Education and Unemployment" (Brauns, et al.); "Position of Young People and New Entrants in European Labor Markets" (Couppie, Mansuy); "New Entrants and Experienced Workers on European Labor Markets" (Couppie, Mansuy); "European Perspectives on Labor Market Entry" (Gangl); "Education and Labor Market Entry Across Europe over the Last Decade" (Gangl); "Changing Labor Markets and Early Career Outcomes" (Gangl); "Transition from School to Work in Southern Europe" (Iannelli); "Educational Attainment of Young People in the European Union (EU)" (Mueller, Wolbers); "Integration of Young People into the Labor Market Within the EU" (van der Velden, Wolbers); "Learning and Working" (Wolbers); "Transition Process" (Grelet, et al.); "Route to Skills" (Hartkamp, Rutjes); "Apprenticeship in Ireland, the Netherlands, and Scotland" (Hartkamp, Rutjes); "School Effects on Youth Transitions in Ireland, Scotland, and the Netherlands" (Iannelli, Soro-Bonmati); "Young Immigrants on the Labor Market in France and Sweden" (Mansuy, Schroeder); "Relative Labor Market Disadvantage Among the Least Qualified in Ireland, the Netherlands, and Scotland, 1979-97" (McCoy); and "Gender Differentiation in Education and Early Labor Market Transitions" (Smyth). (YLB)

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A Comparative Analysis of Transitions from Education to Work in Europe (CATEWE).
Final Report
[and]
Annex to the Final Report

Emer Smyth, Markus Gangl, David Raffe,
Damian F. Hannan, and Selina McCoy

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FINAL REPORT

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Mannheimer Zentrum für Europäische Sozialforschung (MZES)
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A Comparative Analysis of Transitions from Education to Work in Europe (CATEWE): Final Report

This report was prepared by:
Emer Smyth (ESRI)
Markus Gangl (MZES)
David Raffe (CES)
Damian F. Hannan (ESRI)
Selina McCoy (ESRI)

With the assistance and co-operation of:
Walter Müller (MZES)
Cristina Iannelli, Karen Brannen (CES)
Maarten Wolbers (ROA)
Michèle Mansuy, Yvette Grelet, Thomas Couppié, Gwenaelle Thomas (CEREQ)
Hans Rutjes, Jannes Hartkamp (DESAN)
Lena Schröder (SOFI)

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2. Working papers

ABSTRACT

The two main aims of the CATEWE project were to develop a more comprehensive conceptual framework of school to work transitions in different national contexts, and apply this framework to the empirical analysis of transition processes across European countries. The project drew on two complementary data sources for these analyses: the European Community Labour Force Survey, and integrated databases based on national school leavers' surveys in France, Ireland, the Netherlands, Scotland and Sweden.

Transition processes and outcomes were found to vary significantly across European countries. Three broad types of national system were identified: countries with extensive vocational training systems at upper secondary level, linked to occupational labour markets (such as Germany and the Netherlands); countries with more general educational systems with weaker institutionalised linkages to the labour market (such as Ireland); and Southern European countries with less vocational specialisation and lower overall attainment than the other groups. Each of these groups had distinctive patterns of labour market integration among young people. In 'vocational' systems, young people tend to make a smoother transition into the labour market while those in Southern European countries find it more difficult to achieve a stable employment position.

Across European countries, educational level is highly predictive of transition outcomes; those with lower levels of education have higher unemployment risks and greater chances of entering low-skilled, lower status and/or temporary jobs. Those who have taken part in vocational education/training (especially apprenticeships) tend to have a smoother transition to their first job and achieve more stable employment. Other dimensions of education are also significant with examination grades having a greater effect in more general education systems. Transition outcomes are found to vary by gender, social class background and national origin. There is no evidence that such differences have become less important in shaping the transition process over time.

Given the diversity in education, training and labour market systems across Europe, the same policy interventions are unlikely to be equally effective in different contexts. However, early educational failure has serious negative consequences for young people across all systems. There is a need, therefore, for policy intervention to reduce such failure and/or to provide alternative routes to skill acquisition for young people. There is also a need to monitor differences among groups of young people in terms of gender, social class and ethnicity and pursue policies to address these inequalities.

The project highlighted a number of areas which should be prioritised in future research: the role of field of education/training in transitions, employer recruitment strategies in relation to young people; young people's own views of the transition process; the role of policy interventions (especially youth programmes); and regional/local differences in educational and transition outcomes. It is recommended that a European-wide survey should be initiated, covering young people from around the age of fifteen and following them over a ten-year period. In the absence of such a survey, we recommend that the Commission should encourage agreement on a 'best practice' template to facilitate the partial harmonisation of existing transition surveys, and use of, and access to, the transitions module of the Labour Force Survey should be enhanced.

CHAPTER 1: EXECUTIVE SUMMARY

1.1 PROJECT BACKGROUND AND OBJECTIVES

Recent decades have seen rapid educational expansion and labour market changes across European countries. Such changes have had the greatest impact on those entering the labour market for the first time. Indeed, many commentators have argued that the period of transition from school to work has become more prolonged and less predictable as a result of such changes. It is, therefore, crucial that we understand the way in which the education, training and labour market systems interact to shape the transition process in modern Europe.

In spite of the importance of the transition issue, existing research has not yielded an adequate understanding of the processes at work across European countries. Cross-national studies have often focused on a narrow range of countries and have frequently neglected important dimensions of the transition from school to work. The CATEWE project set out to fill this gap by developing a more adequate conceptual framework to examine the relationship between education, training and labour market systems in different national contexts, and by applying this framework to empirical studies of transition processes in several European countries.

The original objectives of the project were:

1. To develop a more adequate and comprehensive conceptual framework, drawing on existing research and new analyses, of:
    - the nature of national systems of initial education and vocational training in European societies;
    - the factors and processes affecting variation in the full range of education/ training outcomes by different groups of young people in each system;
    - the processes of transition from initial education/training to work, the main outcomes of such transitions and pathways, and the main factors affecting success and failure in such transitions in each system;
    - the impact of national institutional differences on education/training outcomes and transition processes among young people.

2. Using this conceptual framework, to construct an integrated cross-national data set using national school leavers' surveys for France, Ireland, the Netherlands and Scotland (UK), countries with widely varying education/training systems and labour market structures.

3. To analyse education to work transitions across all European countries using the Labour Force Surveys, placing the analysis of school leaver transitions in the context of the wider European context.

4. Using these comprehensive datasets,
   - To test and refine the conceptual framework to develop a more adequate and comprehensive framework to study school to work transitions across all European countries;
   - To explore national similarities and differences in ET systems and their outcomes, at an aggregate level and for different groups of young people; and the way in which national differences in these respects are influenced by institutional factors;
   - To identify the main factors influencing success or failure in ET outcomes and labour market integration in each system; and attempt to explain similarities and differences in these patterns across the different national systems.

5. To develop proposals to harmonise existing school leavers' surveys in the participating countries; and encourage the extension of comparative transition surveys to other European countries currently planning surveys of school leavers.

In the course of the project, these objectives were broadened in a number of ways. Firstly, analyses of the Eurostat Labour Force survey indicated that the Southern European countries had a distinctive profile in terms of labour market entry, an area of research that had hitherto been neglected. For this reason, it was decided to further explore the specific situation of young people in the Mediterranean countries by analysing Labour Force Survey microdata for Spain and Italy. Secondly, in order to broaden the number of countries included in the school leavers' survey database, contacts were established with a Swedish partner to utilise the Swedish cohort survey of young people. The inclusion of Sweden represented a substantive addition to the project since it has a number of distinctive characteristics in terms of the transition process, including a long-term decline in inequality of educational opportunity (on the basis of socio-economic background), the absence of a formal apprenticeship system coupled with extensive provision of youth programmes. Further exploration of the availability and coverage of school leavers' survey data indicated the value of going beyond the original parameters of the project to construct comparative databases not only for a recent time-point but to allow us to study trends over time as well as young people's experiences over their first five years in the labour market. Due to our concern with contributing to the debate on data harmonisation, the CATEWE team initiated co-operation with two groups (in Flanders and Portugal) who were planning national transition surveys.

1.2 CONCEPTUAL FRAMEWORK

The initial conceptual framework identified three sets of dimensions necessary to explore transitions in comparative perspective: the demographic, economic and labour market context within which transitions occur; the dimensions of the education and training system; and the nature of transition processes and outcomes.

The context within which the transition process has often been neglected in comparative studies of labour market entry. However, important contextual differences are evident among European countries. Firstly, they differ not only in the industrial and occupational structure of employment but also in relation to the type of labour market structuration (particularly whether occupational or internal labour markets have greater importance). Significant variation is also evident in the extent of labour market regulation which is likely to affect the ease of access of young people to (stable) employment. Macroeconomic conditions, including the nature of economic development and the stage in the economic cycle, are also likely to have a disproportionate impact on young people's labour force situation. Other contextual factors which need to be considered include the nature of the family- and State-based welfare provision, and the age, gender and ethnic structuring of the labour force as a whole.

Previous comparative research on transitions tended to focus on two aspects of education/training systems, standardisation (that is, the extent to which curricula, assessment and certification are nationally or regionally standardised) and track differentiation (the division between vocational and academic/general tracks). The CATEWE project went beyond these approaches to examine a broader range of dimensions. In particular, we were concerned with examining the way in which education/training systems 'sort' or differentiate their students not just in terms of programmes within a stage (for example, between vocational or academic) but also in terms of progression into the next stage and outcomes at the end of a stage (such as examination grades). We also considered the nature of school to work linkages, that is, the role of employers in the education/training system, as an important dimension. Our framework did not just focus on school-based education but also explored cross-national variation in the nature of youth training (through apprenticeships and youth programmes), along with its linkage to initial education and the labour market.

These different dimensions of the education/training system can be seen to interact with contextual features to produce a 'transition system': the relatively enduring features of a country's institutional and structural arrangements which shape transition processes and outcomes. The important features of the transition process were seen to include the number and sequence of transitions and the nature of the resulting trajectories, the length of the transition period (from leaving education to 'stable' employment, for example), differentiation between transition statuses (for example, between 'employment' and youth training), and inequalities in terms of gender, social class and ethnicity. A wide range of transition outcomes were considered including: principal economic status; occupational status; industrial allocation; labour market segment; pay; and access to training among young people.

While conceptually distinct, different dimensions of the framework interact to produce clusters of national systems. A broad continuum of European systems is evident, ranging from countries with high standardisation, strong track differentation and strong linkages between education and the labour market (for example, Germany and the Netherlands) to countries with equally high standardisation but much weaker track differentiation and school to work linkages (Ireland and Scotland, albeit with strong market signals in terms of educational qualifications). However, additional features which may cross-cut this continuum must be considered, including the strength of labour market regulation within a national system, along with the nature of the formal and informal (primarily family-based) welfare régimes, a feature which has particular relevance to Mediterranean countries. Finally, it should also be noted that different parts of an education/training system may have different characteristics (for example, school-based provision may differ markedly in nature from post-school vocational training).

1.3 DATA SOURCES

The CATEWE project drew on two data sources with complementary strengths for the analysis of school to work transitions: the Eurostat Labour Force Survey (EULFS) and integrated databases based on national school leavers' surveys (SLS).

The EULFS is a cross-sectional survey, covering all EU member states, and is constructed to a comparable framework in order to facilitate cross-national comparison. As such, it enables us to study the full diversity of national contexts across Europe and to compare the situation of young people with that of their adult counterparts. It also contains detailed information on employment outcomes, allowing us to examine their relationship with level and type of education. However, the cross-sectional nature of the survey means that we cannot directly examine the transition process itself. Instead, synthetic labour force entry cohorts (based on 'typical' age of graduation from different levels and types of education) have been constructed to examine patterns across different cohorts.

A set of integrated databases were constructed drawing on national transition surveys in France, Ireland, the Netherlands, Scotland and Sweden. Key measures of education and transition outcomes were available in these national surveys and they were mapped to a common template of comparable variables, a process which also helped us to refine the conceptual framework described above. The advantage of this data source is that national school leavers' survey explicitly take account of the transition process by examining the flow out of initial education into the labour market or further education/training and allow us to observe individual pathways rather than the aggregate patterns possible with the EULFS. These surveys also contain detailed information on the main dimensions of education/training outcomes, enabling us to explore their relative importance in different institutional contexts. However, the use of integrated databases is somewhat limited in terms of the number of European countries covered, the absence of information on older age-groups for the purposes of comparison, and some difficulties in comparability (for example, the absence of family background information from some national surveys).

The following section highlights the main findings of the LFS and SLS analyses. These are presented separately for the purposes of clarity but section 1.5 will draw together the two sets of findings in discussing the implications of the CATEWE project for policy and future research.

1.4 MAIN FINDINGS

The CATEWE project resulted in twenty-two substantive papers on different issues relating to school to work transitions, including the nature of the relationship between education and labour market outcomes, the nature of apprenticeship systems, variation in youth programme provision, and differentiation among groups of young people in terms of gender, social background and national origin. These papers draw on complex multivariate analyses which enable us to compare European countries in a systematic way and allow us to highlight the significant dimensions of education and training influencing the transition process. The remainder of this section presents a broad overview of the main project findings.

1.4.1 The Eurostat Labour Force Survey

Analyses of the Eurostat Labour Force Survey indicate some convergence in levels of educational attainment across Europe with the greatest increases evident in countries with previously low levels of attainment. However, there is no evidence of any convergence in the type of education across countries. In this respect, analyses identified three ideal-typical groups of countries within Europe: countries with an extensive system of vocational training at upper secondary level (either apprenticeship-based as in Germany or school-based as in the Netherlands) and consequently a high prevalence of labour market entrants with occupationally-specific qualifications; Northern European countries with fairly large proportions of entrants having general rather than vocational qualifications; and Southern European countries with lower levels of educational attainment overall and less vocational specialisation.

These three groups of countries were found to have quite distinct patterns of labour market integration among young people. Across all European countries, labour market entrants tend to experience higher unemployment rates, more employment instability and have lower skilled jobs than more experienced workers. However, the gap between these groups is more pronounced in Southern European countries with entrants being vulnerable to proportionately higher unemployment rates and more precarious employment. Northern European countries were found to occupy an intermediate position, though with quite a distinction evident between 'outsiders' (labour market entrants) and 'insiders' (more experienced workers) particularly in France, for example. In contrast, unemployment rates among labour market entrants closely parallel those among more experienced workers in systems with a strong emphasis on the provision of occupationally-specific skills, such as Austria, Germany, Denmark and the Netherlands.

Among labour market entrants, educational level is found to be highly predictive of transition outcomes. Those with lower levels of education have significantly higher unemployment risks than the better qualified across most European countries, with the exception of Southern Europe. Furthermore, educational level is also associated with the quality of employment secured. Those with higher educational levels tend to achieve higher occupational status, have a lower likelihood of entering low-skilled or temporary jobs, an enhanced access to professional positions and are more likely to obtain full-time contracts. Type of education is also crucial, although its role varies across different institutional contexts. Those who have taken part in vocational education/training (especially apprenticeships) tend to have a smoother transition to their first job and also tend to access more stable employment. In countries without extensive upper secondary vocational training, post-school training tends to reinforce, rather than compensate for, initial levels of education.

Among labour market entrants, unemployment risks are also related to aggregate macroeconomic conditions with the least qualified being particularly vulnerable to cyclical swings. Macroeconomic conditions have a much stronger influence on unemployment risks than they do on the quality of the job obtained. However, there is evidence of some changes in job quality over time; educational expansion is associated with lower net returns to education in terms of occupational status and skill level. This is, at least partly, counterbalanced by the tendency of educational expansion to be associated with an increasing professionalisation of the labour force.

1.4.2 Analyses of SLS data

Analyses of school leavers' survey data focused on a narrower range of countries but the availability of a wider range of variables and multidimensional indicators of educational and transition outcomes enabled us to explore heterogeneity among this (mainly Northern European) group. As with analyses of the Labour Force Survey, level of education was found to be highly predictive of transition outcomes among young people. Those who leave school with lower levels of education have a higher risk of being unemployed (immediately after leaving school and over the first five years in the labour market) and their unemployment spells tend to be longer in duration. Some cross-national variation is evident in the distribution of unemployment with unqualified school-leavers in Ireland experiencing more long-term unemployment while in France unemployment tends to be interspersed with periods of participation in youth programmes or short-term employment. When they secure employment, the least qualified tend to enter part-time, lower status and/or lower skilled jobs.

Other dimensions of educational differentiation are found to influence transition outcomes, but often in different ways in different institutional systems. Examination grades are found to have a more significant effect on transition outcomes in more general education systems than in more track-differentiated systems. Higher-performing students have reduced unemployment risks in Ireland, Scotland and Sweden but grades are not significantly associated with unemployment chances in the Netherlands where type and level of education play a more important role.

School-based vocational education has the strongest labour market effects in formally track-differentiated systems with occupationalised labour markets (such as the Netherlands). However, there is some evidence (as in the Irish case) that the development of occupationally-specific vocational courses within the framework of a 'general' education system may yield similar benefits. Post-school vocational education in the form of apprenticeship and participation in youth programmes was also considered. The apprenticeship system plays a distinctive role across countries, forming an alternative to school-based vocational education as a route to skills in France and the Netherlands but operating as a type of post-school vocational training in Ireland and Scotland. The prevalence of youth programmes also varies across countries, being higher in Scotland, France and Sweden than in Ireland or the Netherlands. In part, this is related to greater labour market regulation in France and Sweden with schemes providing work experience as a means of labour market access. However, in Scotland youth programmes have become an important route to skill acquisition even in the context of a relatively 'flexible' labour market.

The nature of the education/training system influences the extent of differentiation in terms of gender and ethnicity. In particular, early selection into different tracks plays a role in increasing differentiation in terms of educational and transition outcomes. In the Netherlands, for example, gender differences in the type of vocational tracks taken is associated with somewhat higher occupational and industrial segregation by gender on entry to the labour market. However, it should be noted that gender segregation within the labour market was a feature of all of the countries considered. In a similar way, early selection in the French system is associated with greater differences in educational outcomes between immigrant and native-born young people. Analyses from the CATEWE project indicate no evidence that educational and transition outcomes have become less structured over time by background characteristics such as gender, social class and ethnicity.

1.5 IMPLICATIONS FOR POLICY AND RESEARCH

Perhaps the main conclusion of the CATEWE project is that, given the diversity in education, training and labour market systems across Europe, the same policy interventions are unlikely to be equally effective in different contexts. It is worth noting, however, that, while relatively enduring in the way they shape school to work transitions, national transition systems are not fixed. Indeed, many of the countries considered in our analyses have experienced considerable changes in recent decades, particularly in the nature of their apprenticeship and youth programme provision. Transition processes and outcomes are, therefore, amenable to policy intervention but not to the imposition of a single 'solution' derived from a very different institutional context. It has proved difficult, for instance, to expand the apprenticeship system beyond traditional crafts sectors in certain systems (such as Ireland) so this would not appear to be a viable solution to early educational failure in all contexts.

A fairly striking regularity across Europe is the crucial role of educational level in shaping transition outcomes. Those with low levels of education/training continue to experience marginalisation within the labour market (either through increased unemployment or precarious work situations), even in the context of rapid employment growth. There is, therefore, a need for policy intervention to prevent drop-out from the education system and/or to provide alternative routes to skills acquisition and labour market integration for young people who have experienced educational failure.

The provision of vocational education may be seen as one means of achieving this end. All else being equal, young people who have taken a vocational track are found to have a smoother transition to the labour market and tend to access better employment opportunities. This pattern is particularly marked for those who have taken an apprenticeship programme. But the potential disadvantages of promoting greater commitment to vocational education must also be considered. Young people who have taken vocational tracks are less likely than those who have taken general tracks to enter higher education and, in the longer term, they tend to be excluded from higher status occupations. Early selection into different educational tracks may also exacerbate social differences in educational outcomes, leading to more unequal outcomes for working-class and ethnic minority youth.

Policy interventions thus need not only to respond to 'average' transition patterns but to take account of diversity among young people in terms of gender, social class and ethnicity. Discussions about gender equity have often focused on the position of women 'returners' to the labour force. However, our analyses indicate the persistence of segregation by gender among young women in the face of the introduction of equal opportunity legislation across Europe. More research is, therefore, needed to examine both the formal and the informal factors shaping choices on the part of employers, education/training providers and young people. There is also a need for more information on the social class and ethnic background of young people and the development of equity measures in education and transition outcomes.

Other research is needed to inform policy in a range of areas, including an investigation of:

- employer strategies in different segments of the labour market, in particular, their decisions in relation to the recruitment and training of young people;
- young people's own views of the transition process, their expectations and aspirations;
- the role of policy interventions, especially youth programmes, in the transition process and their relationship with other forms of education and training;
- the role of field of education/training in shaping transition outcomes, controlling for level of education;
- regional and local differences in educational and transition outcomes.

It is recommended that the potential use of existing data sources should be enhanced in order to study transition processes from a comparative perspective. Firstly, improved documentation of, and access to, EULFS microdata would facilitate transitions research. Secondly, the transitions module added to the Labour Force Survey has considerable potential, but only if researchers are granted access to the microdata. In addition, the potential of the module to collect information on social background and career trajectories should be enhanced in future waves of the survey. Thirdly, while full harmonisation of existing national transition surveys is not feasible, it is recommended that agreement should be reached on a template which represents best practice and principles for the partial harmonisation of these surveys. The added value of attempting such harmonisation could be high, particularly as the number of European countries conducting such surveys has been increasing. Finally, we recommend the initiation of a European-wide survey based on a prospective age cohort design starting at about fifteen years, followed over a period of about ten years. This would enable us to examine decision-making processes among young people at the point of leaving compulsory education and their subsequent trajectories through the education and labour market systems. The improvement of existing data sources coupled with the collection of new data would greatly enhance our ability to understand transition systems across Europe in years to come.

1.6 DISSEMINATION

A number of complementary dissemination strategies were adopted within the life-time of the CATEWE project. These included the presentation of conference papers, publication in journal and book format, the creation of a CATEWE web-site containing working papers (http://www.mzes.uni-mannheim.de/projekte/catewe/), and the development of links with OECD and other relevant organisations in relation to proposals for the harmonisation of transitions data. Future activities will include the publication of a book on the Labour Force Survey analyses, the publication of papers on the School Leaver Survey analyses in scientific journals, along with the use of existing networks among project partners to carry out dissemination to policy-makers and other interested parties at a national level.

CHAPTER 2: BACKGROUND AND OBJECTIVES

2.1 RATIONALE FOR THE PROJECT

In recent decades, European countries have experienced significant growth in the educational qualifications of labour market entrants. At the same time, occupational structures and employment practices have undergone considerable change across Europe. Such changes highlight the necessity of understanding the relationship between the education/training system and labour market changes in different national contexts. In particular, the persistence of youth unemployment in many European countries means that attention should be given to the period of early labour market integration. It is also important that the transition from education to the labour market should be examined in comparative perspective. The diversity of institutional arrangements across EU member states means that we cannot assume that policy interventions will operate in the same way in different contexts. Instead, we need to identify the important dimensions of national education, training and labour market systems in order to formulate effective policy in this regard.

A number of researchers have examined institutional variation in education, training and labour market systems, proposing that the nature of the relationship between these elements is societally specific (see, for example, Maurice *et al.*, 1986). While such work has improved our understanding of the transition process, empirical research has proved rather limited and narrowly focused. Cross-national studies have tended to focus only on two or three countries, running the risk of generalising to very different institutional contexts on the basis of a limited number of 'core' European countries (usually Germany, France and/or Britain). Measures of education and labour market outcomes have often obscured very real differences between systems and many crucial dimensions of the transition process have been ignored. The CATEWE project set out to address this deficit by developing a more adequate and comprehensive conceptual framework for examining the relationship between education, training and labour market systems, and applying this framework to a comparative empirical study of recent developments in several European countries (see Hannan *et al.*, 1999).

2.2 BACKGROUND TO THE PROJECT

The project developed out of the experiences of project partners in participating in the European Network on Transitions in Youth. This Network was established in 1992, drawing together researchers who had considerable experience in conducting and analysing national transition surveys as well as researchers who had used Labour Force Survey data to analyse the relationship between educational and labour market outcomes. Participation in the Network increased awareness of national differences in transition processes as well as of the kind of information available to study transitions and stimulated a number of small (usually two-country) comparative studies[1]. It quickly became clear that it was necessary to expand the range of countries considered in order to capture the most important dimensions of institutional variation.

Discussions around this topic led to the preparation of a paper for the OECD, which was then preparing a Thematic Review of the Transition from Initial Education to Working Life, outlining a preliminary framework for analysing institutional differences in school to work transitions (Hannan, Raffe, Smyth, 1997), and to the formulation of a research project funded under the Leonardo project. This project drew on national transition surveys to focus on the experience of 'lower level leavers' (those leaving school without upper secondary certification) in four countries: France, Ireland, the Netherlands and Scotland (see Hannan, Smyth *et al.*, 1998). The experience of attempting to develop an integrated cross-national database highlighted the potential, as well as the difficulties, involved in such an exercise. It also became clear that an adequate analysis of institutional diversity would need to take account of a broader range of national systems. As a result, the CATEWE project aimed to draw on two complementary sources of data: the Eurostat Labour Force Survey and national school leavers' surveys.

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[1] Proceedings of the European Network on Transitions in Youth annual workshops have been published in CEDEFOP (1994), ESRI, Combat Poverty Agency (1998), Raffe et al. (1999), and Hammer (2000).

2.3 PROJECT OBJECTIVES

The original objectives of the project were:

1. To develop a more adequate and comprehensive conceptual framework, drawing on existing research and new analyses, of:
    - the nature of national systems of initial education and vocational training in European societies, with particular reference to their degree of differentiation and standardisation as well as to the relationship between general and vocational education in each system;
    - the factors and processes affecting variation in the full range of education/ training outcomes by different groups of young people in each system;
    - the processes of transition from initial education/training to work, the main outcomes of such transitions and pathways, and the main factors affecting success and failure in such transitions in each system;
    - the impact of national institutional differences on education/ training outcomes and transition processes among young people.

2. Using this conceptual framework, to construct an integrated cross-national data set using national school leavers' surveys for France, Ireland, the Netherlands and Scotland (UK), countries with widely varying education/training systems and labour market structures. Strenuous efforts were to be made to incorporate other countries who had conducted, or were planning to conduct, school leavers' surveys.

3. To analyse education to work transitions across all European countries using the Labour Force Surveys, placing the four country analysis of school leaver transitions (2) in the context of the wider European context.

4. Using these comprehensive datasets,
    - To test and refine the conceptual framework (1) and associated hypotheses; and to develop a more adequate and comprehensive framework to study school to work transitions across all European countries;

- To explore national similarities and differences in ET systems and their outcomes, at an aggregate level and for different groups of young people; and the way in which national differences in these respects are influenced by institutional factors;
- To identify the main factors influencing success or failure in ET outcomes and labour market integration in each system; and attempt to explain similarities and differences in these patterns across the different national systems.

5. To develop proposals to harmonise existing school leavers' surveys in the participating countries; and encourage the extension of comparative transition surveys to other European countries currently planning surveys of school leavers.

It was intended that analyses should be framed in terms of five key research questions:

- What is the nature and extent of similarities and differences in education/training systems within the EU countries studied, and in the associated type and level of education and training achieved by educational system leavers entering the labour market?
- What is the relationship between differences in education/training outcomes and the social background characteristics of system leavers (in terms of gender, social class and ethnic origin)? And do such differences vary systematically across national systems?
- How do transition processes vary systematically across countries (in terms of their length, complexity etc.)? And to what extent are these differences related to differences in education, training and labour market structures?
- What is the nature and extent of the relationship between level and type of educational achievements among system leavers and (the success of) their transition processes and outcomes? How do these relationships vary by type of system?
- What is the relationship between social background characteristics and labour market outcomes? To what extent is this relationship mediated by education, and does this vary by type of system?

The following section outlines how these objectives were met, and research questions addressed, during the course of the project. However, the objectives themselves became subject to review and development over the course of the project. Firstly, it became clear that, at least in terms of national transition survey data, information was available only on a limited range of European countries. As a result, an attempt was made to broaden the scope of countries included. Information from a Swedish cohort study was incorporated into the school leavers' database(s) and links were forged with two countries (Belgium (Flanders) and Portugal) who were initiating transition surveys. Furthermore, analyses of the Labour Force Survey data indicated the distinctive character of institutional and market systems in Southern Europe. For this reason, analyses of microdata for Italy and Spain were conducted in order to further explore the source of such variation. Secondly, the construction of an integrated database using school leavers' survey data revealed the rich potential of this data source. As a result, four separate integrated datasets were constructed, allowing us to examine cross-national differences at one point in time, over the 1980s and 1990s, and five years after leaving school. Further details on the development of the project are presented in the remainder of the report.

CHAPTER 3:
SCIENTIFIC DESCRIPTION OF PROJECT RESULTS AND METHODOLOGY

3.1 INTRODUCTION

In this chapter we describe the main activities of the project and summarise its findings. We start, in section 3.2, by outlining the project's conceptual framework, paying most attention to dimensions of variation in national 'transition systems'. In section 3.3 we then contrast different approaches to comparative research, and describe the core strategy of the project which involves what we describe as relatively 'intensive' comparisons between countries. The project took advantage of the complementary opportunities provided by its two main data sources, the Eurostat Labour Force Survey (EULFS) and national School Leavers' Surveys (SLS), and these are described in the following three sections. In section 3.4 we discuss the relative strengths and weaknesses of these two data sources. In section 3.5 we summarise our work on the EULFS, presenting our findings in terms of four main themes. In section 3.6 we similarly summarise our work on school-leaver surveys. Finally, in section 3.7 we describe the project's work on new data-collection: its support for new transition surveys in two European countries and the development of proposals for future comparative data on transition, but on this and other issues we save our main recommendations for chapter 4.

3.2 CONCEPTUAL FRAMEWORK

The research questions outlined in the previous chapter can be summarised as a single general question: "How do national transition systems shape transition processes and outcomes?" To answer this question we needed concepts of transition system, and of the dimensions of variation in national systems; and we needed an understanding of the main transition processes and outcomes.

The project's first report was submitted in summer 1998 and published as a Working Paper in the following year (Hannan *et al.*, 1999). It presented the project's initial conceptual framework, which was to inform the construction of datasets and the analysis of data. The framework built on previous research, including the review by Hannan, Raffe and Smyth (1997) described in chapter 2, and on country studies which summarised existing research on education-to-work transitions in France, Germany, Ireland, The Netherlands, Portugal and Scotland. The country studies were published at the same time, together with an analysis of the changing economic and demographic context of transition.

The report stressed that the conceptual framework was an initial statement, for subsequent review and refinement, and it continued to develop during the life of the project. In the presentation that follows we focus on the conceptual framework as we used it in our work. We take the initial framework, presented in our first report, as the starting point and outline the main lines of development, giving most emphasis to features which proved important in our empirical analyses.

The initial conceptual framework identified three elements (or groups of dimensions) in cross-national comparisons of transition:

- the demographic, economic and labour-market context within which transitions occur;
- the dimensions of the education/training system;
- the nature of transition processes and outcomes.

As the project developed we found it useful to combine parts of the first two elements to develop the concept of 'transition system'. This embraced the main independent variables of our analyses: the macro-level 'determinants' of transition patterns. The third element of our framework provided the main dependent variables, the processes and outcomes of transitions at the micro level. The concept of 'transition system' describes the relatively enduring features of a country's institutional and structural arrangements which shaped transition processes and outcomes. Our work paralleled that of the OECD's Thematic Review of the Transition from Initial Education to Working Life in developing understandings of transition systems (OECD, 2000). The paper by Hannan *et al.* (1997) was written for the OECD Review, and members of the project and the OECD had a joint meeting in 1998.

3.2.1 Dimensions of transition systems and their contexts

With respect to the demographic, economic and labour-market context (the first of the three elements listed above), the report identified the following key dimensions:

- the ratio of young people to adults, both in the population as a whole and in the labour force, including the effect of migration;

- the nature and resources of the family system, and how this provides opportunities or encouragement to young people to stay at home or to set up independent households;
- the nature of economic development: this embraces the distinction between the economic core and periphery of Europe, and variations in the structure and ownership of firms;
- the stage in the economic cycle;
- the industrial and occupational structure of employment;
- the nature of labour-market segmentation within a country, with particular reference to the relative importance of occupational labour markets (OLMs), internal labour markets (ILMs) and external labour markets (ELMs). These distinctions are complex and countries constitute varying mixtures of all three types;
- the size and nature of the informal economy;
- the extent of regulation of the labour market;
- the age structuring of the labour force: that is, the extent of segregation between youth and adult labour markets; and
- the gender and ethnic structuring of the labour force, and the strength of segregation associated with these traits.

The project focused especially on the dimensions of labour-market structure, including the nature of segmentation (the OLM/ILM distinction) and the extent of regulation. Together with features of education and training systems, described below, these were the main elements of the concept of transition system as it was employed in the project's analyses. The ILM/OLM distinction is central to a variety of distinct but related theoretical approaches, including Maurice, Sellier and Silvestre's (1986) distinction between qualification space and organisational space, Marsden's (1986) analysis of labour-market segmentation and Garonna and Ryan's (1991) analysis of modes of inclusion and exclusion in youth labour markets.

Many of the dimensions listed above are of interest more on account of their variation over time, than of their variation between countries. For example, transition processes and outcomes are influenced by the stage of the economic cycle and by trends in the occupational or industrial structure of employment.

With respect to the second element, the dimensions of education and training systems, the project's first report identified the following dimensions or sets of dimensions:

- standardisation: the extent to which curricula, assessment and certification, and related quality assurance procedures, are standardised on a national or regional basis. Standardisation may vary across different parts of the same system: for example vocational qualifications may be more standardised than general qualifications, or vice versa. However the project made less use of the concept of standardisation in its empirical analyses, partly because of the limited variation across European countries;
- differentiation: the extent and manner in which a system differentiates its students. The initial conceptual framework noted that this might differ between stages of education within the same system. It further distinguished three types of differentiation, which respectively concerned
    - institutions or programmes within a stage,
    - progression into the next stage, and
    - outcomes at the end of a stage, especially the level of attainment or grades achieved.

  The project's empirical analyses confirm the multi-dimensional nature of differentiation, but do not settle on a single way to represent these dimensions. Many analyses work with a simpler concept of track differentiation, which broadly corresponds to the first two types of differentiation listed above, as applied to 'lower' and 'upper' secondary education and the relation between them. However some systems with relatively low levels of track differentiation, such as Ireland or Scotland, may have strong vertical differentiation with respect to attainment at the end of each stage, so the project sometimes found it useful to distinguish outcome differentiation (attainment at the end of a stage) from track differentiation;
- school-to-work linkages: the role of employers in the education/training system. At one pole are systems where employers are direct providers of education/training, for example through apprenticeship. Other systems (such as the Netherlands) have collinear relationships, with employers making an important institutionalised input into school-based vocational education. A third category (such as Japan) comprises systems where employers have links with schools for recruitment. At the other pole are systems where employers have little direct involvement in any of the senses described above. These comprise two sub-categories: systems in which recruitment decisions are substantially based on individuals' educational attainments, which therefore send out strong market signals to education; and systems where this does not happen and market signals are

weak. Different types of linkage may be found in different sectors of the same education and training system, but there is cross-national variation in the linkages that are characteristic of equivalent sectors;

- youth training: arrangements for youth training, and work-based provision more generally, vary with respect to the level of provision, the degree to which it is differentiated (including between apprenticeship and other programmes) and the formal inclusiveness of provision;
- in addition, several CATEWE analyses have examined the level of participation and/or attainment in education, with particular reference to the relative scale of lower-secondary, upper-secondary and tertiary education, or their ISCED equivalents.

These dimensions are neither logically nor empirically independent of each other. We discuss their interconnections in the next section.

3.2.2 Classifying transition systems

The project's first report drew on the country studies to produce a provisional classification of European countries in terms of the dimensions of the conceptual framework (Hannan *et al.*, 1999, Figure A.1). This classification is detailed and we do not reproduce it here, but it draws attention to the importance of variation within each system with respect to many of the dimensions examined. For example, features such as standardisation, differentiation or linkages with the labour market may vary between different educational tracks, as well as between different stages of education, within the same system. However this classification was too detailed to form the main basis of the project's empirical comparisons, and it was necessary to develop a simpler classification with which to work.

When countries are classified according to a matrix which combines many of these dimensions (see Figure 3.1) they form a broad continuum, from countries with high levels of standardisation, strong track differentiation, strong linkages and significant apprenticeship systems, to countries with weaker track differentiation (but often strong vertical 'outcome' differentiation), weak linkages and in some cases extensive youth programmes. This continuum is also associated with some of the labour-market dimensions discussed above, and especially with the distinction between OLMs and ILMs. OLM countries tend to have standardised, track-differentiated education systems, strong linkages and high levels of apprenticeship, and they therefore appear at the former end of the continuum of transition systems described above.

Of the countries covered by the CATEWE country studies, Germany followed by the Netherlands is at one end of the continuum with strong OLMs, track differentiation and linkages, while the others (France, Ireland, Portugal and Scotland) are towards the latter end but in the category with strong market signals from the labour market to education. All are relatively standardised. However the project's first report acknowledged that the distinctive features of the transition system of Portugal, as well as other southern European countries, were not fully captured by this framework, and identified this as an area for further study. In addition, a study would need to include non-European countries, such as the United States and Japan, in order to cover the full range of variation in transition systems expressed by the conceptual framework.

Another important dimension of variation in national labour markets, the strength of labour-market regulation or flexibility, partly cuts across this continuum. The report suggested that this could be measured by the extent of state regulation of employment standards and employment protection, and by the extent of corporate coverage of trade union/employer relationships, although later studies refined these criteria. The strength of labour-market regulation differentiates among the large block of 'loosely coupled' countries with strong labour market signals. Of the main countries studied by the project, Scotland and (to a lesser extent) Ireland have weaker regulation than the others.

Different CATEWE analyses emphasise different dimensions of variation in transition systems. This depends partly on their theoretical starting point, and partly on the data source and the opportunities that it provides. Analyses of EULFS data tend to focus on dimensions of labour-market variation, in particular the ILM/OLM distinction, rather than on variation in education and training systems. The EULFS provides good labour-market outcome measures with which to test the ILM/OLM distinction and to derive empirically-based clusters of countries. The EULFS analyses also distinguished countries in terms of the strength of labour-market regulation, and time-varying features of transition systems or their contexts such as levels of educational participation, occupational composition and economic activity.

Conversely, analyses of SLS data tend to focus on the dimensions of variation in education and training systems. The main dimensions of transition systems investigated by SLS analyses are track differentiation, linkages and the role of work-based provision.

A theoretical challenge in the analysis of transition systems is to clarify the connection between their educational and labour market dimensions. For example, is the connection between dual systems and OLMs a necessary connection, explicable in terms of the theoretical frameworks used to analyse labour markets and education systems, or is it merely a product of contingent historical circumstances? However these connections could not be fully explored during the project, partly because of the different emphases of the two main data sources, and further analysis, perhaps using different data, is required.

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Figure 3.1: A typology of ET systems and labour market linkages

	Degree of Standardisation of ET System	
School-Work Linkage	High	Low
	Degree of Differentiation (and Vocat./Occupat. Specificity) of ET Systems	
	High ◄──► Low	High ◄──► Low
(a)Tightly coupled ET/employer systems: strong linkage (dual system) Substantial sharing and co-operation between providers and employers in delivery of ET. As in apprenticeships. High occupationalisation of LM	Germany Austria Switzerland Denmark	
(b) Tightly coupled ET/employer systems: collinear linkage: High levels of in-school provision of ET specific to particular occupations, agreed with employers. High occupationalisation of LM.	Netherlands	
(c)Loosely coupled or decoupled ET/employer systems, but with strong market signals: Low degree of ET provider and employer sharing of ET provision; low occupationalisation of LM, and limited school involvement in employment decisions.	England/Wales Scotland Italy France Portugal Finland Sweden Ireland	
(d)Loosely coupled systems, but with strong market signals and strong school placement function	Japan	
(e)De-coupled ET/LM systems with weak market signals (from second level).		USA Canada

3.2.3 Transition processes and outcomes

With respect to the main dependent variables of the analysis, transition processes and outcomes, the project's first report notes that the process of transition has changed in most countries, involving a longer and more complex sequence of transitions and a larger number of intermediate statuses between education and a 'stable' status in the labour market. There is a debate about the extent to which youth transitions have become more individualised and whether this has affected the nature or importance of social and gender inequalities. Important features of the transition process include:

- the number of separate transitions which comprise a 'completed' transition from education to work for an individual;
- the length of the period over which these transitions take place;
- the extent of differentiation between transition statuses (for example, the extent to which apprenticeships are distinct from other work-based training, and the extent and the nature of 'dual statuses' such as combinations of work and education);
- the nature of trajectories: particularly the ways in which education, training, qualification outcomes and employment/unemployment are interrelated (for example, the phasing of education/training and employment status changes, the possibility of 'reversals' and 'bridging loops' back to education/training from the labour market, and the extent of education/training involvement leading to qualifications);
- inequalities in respect of gender, social class and ethnicity; and relatedly,
- the extent of individualisation, in the sense either of a growth in the number and complexity of transitions, or a reduction in the correlation between transition processes and background characteristics such as gender and social class.

The concept of transition outcome, and especially the definition of a successful transition, are problematic. In many studies the available data make it necessary to define outcomes in terms of 'snapshots' at a given point in the transition process, for example one year or five years after leaving school. The main 'snapshot' outcomes of concern to this study are: principal economic activity; occupational status; industrial allocation; labour market segment; wages; security of employment; access to on-the-job training; access to off-the-job training sponsored by employers; content congruence, that is, matching between type of education and type of occupation; 'level congruence', or the extent of matching between level of education and occupational status. However comparisons based on snapshot measures are sensitive to the time at which they are measured. The difference in outcomes between young people from different countries may be very different one year after leaving school but may become more similar a few years later. More fundamentally, any comparison based on a single measure is problematic in the context of cross-national differences in the length of the transition process, in the characteristic sequence of transitions and in the blurring between statuses. Other outcome measures try to capture aspects of the transition sequence, for example time to first

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job, percentage of time unemployed, job and career mobility, frequency of job changes or loss of employment; others measure more complex 'trajectories' of status changes over time. However there is a need for further conceptual development in this area.

Finally, the project's first report refers to various dimensions of state intervention (in military service requirements, youth programmes, social welfare provision as well as the labour market) in its discussion of transition processes and outcomes, although these more properly belong with the concept of transition system rather than with transition processes and outcomes.

The way in which the project operationalises transition processes and outcomes depends on the opportunities afforded by the data, discussed later in this chapter. Most analyses both of the EULFS and of the SLS use 'snapshot' measures of such outcomes as (un)employment or occupational level. The EULFS has insufficient longitudinal data, and the SLS data are insufficiently comparable, to permit much ambition in defining trajectories or other measures of the sequencing of transition statuses. Analyses of both data sources use their potential for correlating transition outcomes with educational background, or with gender and social background.

3.2.4 Summary: conceptual framework

To summarise, the conceptual framework developed in the project:

- uses the concept of transition system to describe the interrelated features of education and training systems, national labour markets and other macro-level determinants of transition processes and outcomes;
- identifies a large number of dimensions of transition systems and of their social, demographic and economic contexts;
- suggests that many of these can be expressed in terms of one overarching dimension, associated with the strength of OLMs, apprenticeship, standardisation, track differentiation and education/labour-market linkages;
- identifies other important dimensions of variation in transition systems, including the strength of labour-market regulation and the 'vertical' differentiation of levels of educational achievement or grades;

- acknowledges the need for further theoretical and empirical work on the distinctive features of southern European transition systems;
- acknowledges that the precise connection between the educational and labour-market dimensions of transition systems, and the distinction between a transition system and its socio-economic context, require further analysis; and
- identifies transition processes and outcomes in several ways: in terms of 'snapshots' of individuals' statuses at given time points, classifications of longitudinal transition sequences, the strength of association between education and labour-market outcomes, and social and gender inequalities.

3.3 COMPARATIVE RESEARCH STRATEGY

The project required comparable data on transition processes and outcomes across a sample of countries which represented theoretically significant variation in transition systems. We used two main sources of data: the Eurostat Labour Force Survey, and datasets constructed from national surveys of secondary school leavers in France, Ireland, the Netherlands, Scotland and Sweden. The project aimed to benefit from the complementary strengths of these two sources of data, which we discuss further (together with their respective limitations) in section 3.4.

There are different ways in which researchers may pursue a question such as "How do national transition systems shape transition processes and outcomes?" Figure 3.2, based on Raffe (2001), summarises contrasting strategies of comparative research. At root they reflect the different possible purposes of comparison: do we compare countries in order to identify universal laws or patterns, or in order to elucidate national uniqueness? (Kohn, 1987; Øyen, 1990; Bynner and Chisholm, 1998; Evans, 1999). A universalistic approach aims to 'replace countries by variables' (Ragin and Becker, 1992), and to identify a set of laws which not only transcend national differences but also explain them. It would attempt to answer our research question by reducing differences in national transition systems to a series of dimensions or types, which explain why transition processes and outcomes vary across countries without the need to refer to idiosyncratic national features. By contrast, particularistic research aims to discover the unique logic which governs social processes within each country. Each transition system comprises a unique set of structures, concepts and relationships which defy any attempt to generalise or classify across countries; even phenomena which appear to be general, such as entry to the labour market or the institution of apprenticeship, have different significance in terms of their national logics, and the task of research is to unpick differences between superficially similar concepts. The universalistic strategy typically involves an extensive approach to comparison, which uses large samples of countries in order to distinguish empirically among alternative country-level explanatory variables. The particularistic strategy typically uses a small sample of countries, often just two or three, to make interpretive comparisons, whose main aim is to highlight qualitative differences in concepts and institutions. It is this approach which underlies the view of comparative research as a means to gain a better understanding of one's own country, by exposing taken-for-granted assumptions and opening them to challenge.

Figure 3.2 Comparative research strategies

	Universalistic	*Intermediate/mixed*	*Particularistic*
Aim	To identify universal laws or patterns	Mixed aims	To elucidate national uniqueness
Method	Replace countries with variables	Use common concepts to describe and classify national logics and analyse differences	Use distinctive concepts to describe and analyse internal logic of each country
Use of comparison	Extensive: large sample of countries to represent variables of theoretical interest	Intensive: use small sample of countries; multiple comparisons provide degrees of freedom	Interpretive: use small number of national contrasts to highlight differences in concepts and institutions

The contrast described above is a matter of emphasis; there are few pure examples of either strategy. Many researchers have adopted an intermediate position (eg Maurice *et al.*, 1986; Kohn, 1987), and so has the CATEWE project. In the middle column of Figure 3.2 we identify an intermediate strategy which may have both universalistic and particularistic purposes, which recognises the existence of distinctive national 'logics' but which tries to develop common cross-national concepts to describe them and cross-national theories which at least partially explain them. Its characteristic research approach is the use of intensive comparisons, which test a range of predicted contrasts or similarities across a small number of theoretically sampled countries. The intensive approach compensates for the lack of degrees of freedom at the country level by making multiple comparisons and testing a range of hypotheses arising from the same theoretical starting point. The intensive approach is therefore dependent on detailed comparable data, and on a strong conceptual and theoretical foundation.

Of the two main data sources used by the CATEWE project, only the Eurostat LFS provides a basis for extensive comparisons. It has standardised data on education and labour-market outcomes for all fifteen member states of the European Union, whereas the school-leaver survey data are only available for five countries. However a sample of fifteen countries is still a small sample to be used for extensive comparisons, especially when some countries have to be excluded from particular analyses for reasons of sample size or data availability, although the degrees of freedom can be increased by using data from a sequence of annual surveys. As a result, the EULFS is most effective in the analysis of transition systems when these are conceptualised in terms of a small number of types (such as OLM countries, ILM countries and southern European countries: see 3.5 below) or represented by time-varying variables such as the occupational distribution or level of educational participation. In the CATEWE project, analyses of the EULFS include:

- mainly descriptive comparisons, for example of 'dual statuses' which combine education with work, or of trends in educational attainments or labour-market outcomes;
- analyses which distinguish a small number of types of transition systems among EU countries;
- multi-level analyses which use country-level variables (usually including time-varying variables) along with individual variables, such as education, to predict such outcomes as unemployment or the type of employment of recent labour-market entrants.

The second and third of these sometimes correspond to our notion of extensive comparisons. However, many of the analyses more closely resemble intensive comparisons, as they take advantage of the EULFS' rich data across a range of labour-market outcomes in order to make the multiple comparisons more characteristic of the intensive approach. Further analyses use data from national labour force surveys in order to take advantage of the wider range of data and the scope for re-defining variables for more focused and detailed comparisons.

SLS data were available for only five countries, and for many analyses data were available only for a subset of these. The comparative approach in the SLS analyses has been intensive rather than extensive, focusing on multiple comparisons across a range of outcomes. An example is Smyth's (2000a) analysis of the effects of varying levels of differentiation in education systems across a range of indicators of gender inequality - in the level of education, type of education, occupation, income, and so on. The SLS data for many transition processes and outcomes (the dependent variable) are incomplete or insufficiently comparable across countries (see 3.4 below). The school leavers' surveys support some important analyses but their potential for intensive comparisons, which require detailed, comparable data on a range of processes and outcomes, is more limited than we had hoped. On the other hand, the school leavers' surveys have proved unexpectedly valuable for what we have termed interpretive comparisons. The processes of constructing an integrated dataset, and of defining cross-nationally applicable measures of such concepts as the level of education or of educational attainment, raise issues of meaning and equivalence which are commonly overlooked in comparative research. And deeper investigations of concepts and institutions such as apprenticeship, youth programmes and upper-secondary vocational education draw attention to cross-national differences in their organisation and their role in the transition process.

The project's main comparative strategy is thus an intermediate one in terms of Figure 3.2. It uses common concepts to analyse country differences and (at least partly) to explain them, and it relies primarily on an intensive approach which tests multiple hypotheses from a given theoretical starting point on a small sample of countries.

3.4 THE DATA SOURCES - THEIR STRENGTHS AND WEAKNESSES

This section discusses the strengths and weaknesses of the two data sources used in the project. It has been pointed out in section 3.3 that the European Union Labour Force Survey (EULFS) can be used for extensive comparison while the national school leavers' (or transition) surveys are useful for intensive comparison. The data sources differ in other ways which are outlined in Figure 3.3 (see also Raffe, 2000).

Figure 3.3: Comparison of data sources

Characteristics	*EU Labour Force Survey (up to LFS 1997)*	*National School Leavers' Surveys*
Nature of survey	Cross-sectional (snapshot at one point in time)	Longitudinal (flow out of school)
Data structure	Cross-sectional with only a limited retrospective component	More complete retrospective information on educational and labour force histories; some panel (follow-up) information
Frequency	At least annual	Regularly, though not necessarily annual
Country coverage	All EU countries	France, Ireland, the Netherlands, Scotland and Sweden[1]
Sample coverage	All adults; allows for a comparison of young people and adults	Young people experiencing the transition only
Comparability	Constructed to a comparable framework but process inadequately documented	Not designed to be comparable but useful comparative indicators can be constructed
Form of data	Aggregate only at EU level; micro-data for some individual countries	Individual-level data
Information on educational background	Level and type (general v. vocational)	Level, type, field and grades (for some countries at least)
Information on employment position	Detailed: principal status and nature of job but lack of information on participation in youth programmes or earnings	Detailed: principal status, nature of job, earnings, and participation in youth programmes
Information on social background	Not available	Parental social class, parental education, immigration status (for some countries at least)

Perhaps the key difference is that the EULFS gathers information on a cross-sectional basis collecting data on adults within households at a single point in time. The EULFS, therefore, has little direct information on the transition process itself, but researchers can compare different age groups within the labour force, or compare recent and earlier entrants to the labour market. In contrast, national school leavers' surveys explicitly take account of the transition process by examining the flow out of education into the labour market or further education/training. With school leavers' survey data, one has the advantage of being capable of observing *individual trajectories* over a certain time-period after leaving the educational system. That is, individual labour force histories are directly observed as a sequence of labour force statuses and their associated features. Obviously, this is impossible from LFS data sources, as the necessary information is simply absent. Still, some insights into transition processes can be gained from generating *aggregate career paths* by comparing the distribution of labour market states between individuals having spent different amounts of time on the labour market. The basic difference between using SLS and LFS data for transition research thus lies in the fact that SLS allows us to represent individual transition processes, while LFS sources are restricted to analyses of aggregate (average) patterns only. It must be emphasised, however, that the two data sources yield complementary insights into the transition from school to the labour market. In the remainder of the section, we discuss these characteristics, advantages and shortcomings of the data sources in greater detail.

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[1] A number of other regional or sectoral studies were available elsewhere but were not suitable for inclusion in the project given its focus on national systems.

3.4.1 Addressing transition processes from LFS data

The EULFS appears as an attractive database to comparative research for a number of reasons. For each of the fifteen current member states, the LFS provides information based on large sample sizes, which allow for differentiated results on labour force activity and its determinants, and the surveys are explicitly administered according to a design which is geared towards producing comparable information across countries. In addition, the LFS surveys are repeated at least annually, so that they represent one of the few databases from which current processes of social change can effectively be studied. Last but not least, the LFS in general contains a wealth of information on current labour force activities, employment conditions (occupation, industry, hours, job tenure etc.) and socio-demographic characteristics of respondents. These advantages of the EULFS come at a price, however, at least in a study on school-to-work transitions (cf. the discussion in Céreq, 1997; Couppié and Mansuy, 1999).

The main drawback of the LFS surveys, at least as currently released by Eurostat, is their purely cross-sectional nature at the level of individual respondents. That is, the EULFS by definition does not allow us to follow a dynamic research approach at the micro level which would investigate individual trajectories from education into the labour market. The necessary information is simply not present in the database as the same individuals cannot be followed over time.[2] Still, to a limited extent, retrospective information, on, for example, past employment status, is available from LFS sources. In fact, this information has been used in some analyses (Couppié and Mansuy, 2000a, 2000b), and some results from these will be presented below. On the other hand, it has to be recognised that the analytical value of the retrospective information provided is in itself quite limited: as retrospective measures on potential explanatory covariates are not available, causal analysis of labour market flows is greatly inhibited as it can only be conducted for those characteristics which are (reasonably assumed to be) stable over time. In addition, measurement concepts for labour force statuses are not identical at both time points, so that definitional problems might plague any such analysis. Using EULFS data for transition research for most purposes thus has to represent a conscious decision to restrict one's analytical potential to what is available from cross-sectional data while being able to cover all EU countries in the research. Consequently, the LFS analyses performed within the CATEWE project can be read as an attempt to extract as much information on youth labour market integration in Europe as possible from this cross-sectional database.

The key to our analyses is to realise that, although it is impossible to observe individual trajectories between education and work in the LFS data, cross-national similarities and differences in macro-level patterns of youth labour market integration can readily be observed from the database. In fact, as information is collected annually, traditional cohort analyses can be performed if information from subsequent surveys is linked accordingly. Müller and Wolbers (1999) applied this technique to address the scope of educational expansion in Europe over the past decades: by combining educational distributions for the same birth cohorts over the historical observation period currently available from the EULFS, they have been able to analytically separate life-cycle patterns of educational attainment from cohort effects on the level of educational attainment. For the purpose of country comparison, this generates a valid picture of educational attainment processes at the macro level, even without the availability of longitudinal data at the individual level and without the imposition of any additional assumptions on the data.

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[2] While there are some national LFS studies which actually do, and others which at least in principle would permit us to follow this approach, the harmonised EULFS does not so far allow the identification of members of existing rotating samples across annual survey waves.

This approach can, in principle, also be applied to the analysis of labour market outcomes for those entering the labour force. On the other hand, analyses based on genuine birth cohorts are unlikely to yield adequate (comparative) representations of labour market entry processes: within any single country, leavers from different educational backgrounds exit the education and training system at different ages. That is, any straightforward differentiation of youth labour market outcomes by age tends to misrepresent the situation of interest as young people of a given age might actually be in very different career stages. A university graduate might have just begun working in her first job at age 27, while somebody who left school after attaining his compulsory education certificate has already been working for 10 years. The issue becomes even more problematic in comparative research, as the precise biographical timing of these transitions varies according to the particular institutional structure of national education and training systems. Moreover, differences in national levels of educational attainment can generate misleading country differences in macro-level indicators of labour market outcomes, totally unrelated to any differences in actual integration processes. For these reasons, most of the project's analyses of labour market outcomes are based on labour force entry cohorts rather than birth cohorts. That is, the incidence of the transition period has been defined *relative to the biographical time point of leaving the education and training system* rather than sheer biological age. In fact, this defines our perspective on the transition period as one on labour market outcomes in the early career stage, after having completed initial education and training. In most analyses, we chose typical graduation ages for different types and levels of education as published in the OECD's *Education at a Glance* series (see, for example, OECD, 1997) as an approximation to the biographical time point of completing a particular type of education in the various European countries, and calculate a measure of potential labour force experience on that basis. For the purposes of the project, we then focus on labour market outcomes among those in their initial years on the labour market, that is, up to five, or in some analyses up to ten or even fifteen years after having obtained their highest educational qualification. In addition, most analyses assume relative stability in the structure of transition processes in the short-run so as to enable the use of synthetic cohort approaches in the statistical analyses. By doing so, we are able to extract the macro level properties of transition patterns for all current EU member states from LFS databases.[3]

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[3] Two papers actually used national LFS microdata for some in-depth analyses of particular questions in a more restricted sample of countries (Brauns et al., 1999; Iannelli and Soro Bonmatí, 2000), but the methodological remarks made here apply to these analyses as well.

Certainly, this still represents a serious limitation with respect to an adequate description of occurring transition processes. It is most discomforting not to be able to describe individual level transition processes because the full extent of individual heterogeneity in transition processes between education and work cannot possibly be uncovered from LFS data. On the other hand, what still can be observed from this database under the chosen set-up, is the average labour market outcomes of young people in their early career stages in all European countries and conditional on education, time since leaving education and training systems, and certain socio-demographic factors. Exploring the incidence of cross-national differences in such *average* transition outcomes is actually a major task in understanding the outcomes of different institutional arrangements regulating school-to-work transitions in Europe which has not been done in a similarly encompassing fashion so far.

Of course, more detailed longitudinal data do allow for more detailed studies of transition processes. In particular, using the LFS implies the restrictive assumption that (a) leaving the education and training system, (b) achieving the highest qualification and (c) entering the labour market all happen at the same time; in other words, that only the most recent of potentially multiple entries is of substantive importance. As we argue in 3.7 below, this need not be the case: moreover, the relationship between these three events is variable across countries. Nevertheless analyses based on this simplified assumption can provide useful insights into cross-national differences, which are consistent with project research based on school leaver survey data as well as previous research, as the work summarised in section 3.5 below demonstrates.

3.4.2 Analysing transition data using national transition surveys

One of the key objectives of the CATEWE project was to use existing national transition surveys to explore early transition processes among young people in a range of countries. In most of the countries concerned (France, Ireland, the Netherlands and Scotland) these surveys were surveys of 'school-leavers', that is, those exiting secondary education at a particular point in time, although the precise definition of a 'leaver' can vary across countries.[4] However, in the Swedish case, data related to a series of cohort surveys of young people leaving education at various stages. National transition surveys have a number of advantages in exploring educational outcomes and early labour market experiences among young people (see Figure 3.3 and Raffe, 2000). Firstly, they tend to collect detailed information on educational background, incorporating dimensions which are considered important in the particular institutional context. The sensitivity of transition surveys to the national context is an advantage in providing a more complete view of (national variations in) the transition process. Secondly, they allow us to directly relate young people's educational background to their experiences in labour market integration at an individual level. Thirdly, the fact that they are (for the most part) *leavers'* surveys means that we are looking at young people, most of whom entered the labour market at the same time and therefore searched for work and started their careers under the same conditions. Fourthly, such surveys tend to provide rich data on a range of transition 'outcomes' among young people, covering not just principal activity but different dimensions of job quality.

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[4] In the Scottish context, for example, 'leaver' refers to those leaving the general secondary school system with further education regarded as a destination. Countries also vary in their approach to apprentices who are differentially treated as 'leavers' and 'labour market entrants'.

National transition surveys have, however, been largely under-exploited in cross-national analyses. One of the main advances made by the CATEWE project has been, therefore, to use these national transition surveys to construct an integrated database with information on key aspects of young people's educational and labour market experiences. In fact, a total of three databases were constructed as part of the project:

1. A current database. This was based on the most recent year for which school leavers' surveys were available. This database covers:
    - France: young people who left general or vocational full-time secondary education (including apprenticeships undertaken as part of initial education, but excluding General Baccalauréat and agricultural courses) in 1993-4 and who did not continue in full-time education;
    - Ireland: young people who left secondary school in 1995-6, surveyed in autumn 1997. This includes those who left Junior or Leaving Certificate and Post-Leaving Certificate courses. Other post-secondary vocational courses count as destinations, along with apprenticeships, training schemes and third-level education.
    - The Netherlands: young people who left secondary education (including MBO) in 1995-6 and did not enter another form of secondary education. They were surveyed in autumn 1997. In this survey, apprenticeships count as destinations.

- Scotland: young people who left general secondary school in 1993-4, surveyed in spring 1995. Courses in further education colleges, apprenticeships, training schemes and higher education courses count as destinations;
- Sweden: young people who completed lower-secondary (compulsory) education in 1993 and were surveyed in spring 1997.

This database has been used to examine cross-national differences at a very early point in the transition process, one to one and a half years after leaving school.

2. A time-series database. Since no comparable full leavers' survey was available for earlier years for France, it was based on three countries: Ireland (1980-1997; 5 time-points), Scotland (1979-1995; 5 time-points), Netherlands (1989-1997; 3 time-points). This database has been used in order to explore changes in institutional and labour market contexts over time.
3. A longitudinal database. Since the current and time-series databases relate to a very early point in young people's labour market career, this has the advantage of allowing the analysis of longer term transition patterns. Unfortunately, due to lack of data availability, the construction of a longitudinal database was only possible for Ireland and France, and, for a much more limited set of variables, for France and Sweden.

Constructing the integrated databases was not just a means of conducting substantive analyses on school to work transitions in a number of countries but the process in itself yielded valuable insights into our understanding of institutional variation in education, training and labour market systems. The procedure involved an iterative process, involving the identification of common variables within the national datasets, the development of a 'mapping' from the original, often highly diverse, country-specific variables to a common variable specification and the testing of these new comparative variables (for further details, see CATEWE, 1999). This approach yields a number of advantages over the analysis of transition surveys at a national level (see Brannen, Smyth, 2000; CATEWE, 1999). It allows us to directly test cross-national differences in transition patterns, controlling for a range of other factors. Thus, we examine whether, for example, educational relativities in unemployment differ between Ireland and the Netherlands, all else being equal. More importantly, the construction of comparable variables for countries with very different institutional contexts requires a rigorous clarification of the different dimensions of education and transition outcomes explored in the analyses. Thus, the work served to challenge our pre-existing assumptions about the nature of cross-national variation and contributed to the development of new classificatory schema for analysing different dimensions of the transition process. In particular, the construction of variables specifically for the purposes of the project has meant that we can directly reflect the central research questions we seek to address rather than using pre-existing (and often inappropriate) classification systems. It has also helped to develop a set of multi-dimensional indicators which better reflect the specificities of the different institutional systems.

However, national transition surveys and any integrated database drawing on these surveys do have some limitations. They cannot allow us to compare the experiences of young people with older age-groups or with those who entered the labour market at a much earlier point in time, analyses that can usefully be carried out using the Labour Force Surveys. Thus, it can be difficult to distinguish whether cross-national differences in the employment experiences of young people reflect differences in the labour market structures as a whole or in the relative position of young workers vis-à-vis the adult population. Furthermore, differences between the national surveys in design and content result in difficulties in comparability (see CATEWE, 1999). These difficulties are as much conceptual as technical since, in the context of significant institutional differences between transition systems, it is impossible to identify a single transition event that has equivalent significance in each system and which can provide the basis for comparison. Finally, such surveys are available only for a (limited) number of countries: France, Ireland, the Netherlands, Scotland and Sweden. Thus, the database does not include any 'dual system' country or any country from Southern Europe, groups of countries which have been found to have distinctive profiles in terms of transition processes (see Müller et al., 1999). The set of countries studied includes one country often grouped with the dual system countries in terms of the predominance of occupational labour market arrangements, the Netherlands; the remainder of the countries, however, come from the group of North-Western European countries usually characterised as 'ILM' (internal labour market) countries (see, for example, Gangl, 1999). This distinction has also been characterised as the difference between systems with an underlying 'employment logic' and those with an 'education logic' (Iannelli and Raffe, 2000). However, the rich data from the national surveys allow us to explore potential heterogeneity among transition systems that may resemble each other in other respects.

In the following sections of the chapter, we highlight the main findings of the analyses using Labour Force Survey and national school leavers' data.

3.5 TRANSITIONS FROM EDUCATION TO WORK IN EUROPE – LFS RESULTS

CATEWE aimed to deliver a genuine European perspective on transitions from education to working life. This promise is not easily fulfilled as adequate longitudinal data from which to study labour market integration processes at the individual level are available for a limited subset of European countries only. Therefore, CATEWE has attempted to complement its analyses based on longitudinal data by analyses drawing on the European Union Labour Force Survey (EULFS). These analyses are first intended to provide a broader picture on patterns of labour market entry across EU countries, including those where longitudinal microdata was unavailable to the project. Analyses of EULFS data provide a unique opportunity to situate results from the analysis of School Leaver Surveys within an even broader European context. But apart from this purpose, the project also attempted to make use of the genuine potential of the EULFS data base for transition research. To do so based on cross-sectional LFS data is certainly less obvious than from a truly longitudinal database, but we believe that the EULFS sources have some inherent qualities of their own in that respect, which can be fruitfully exploited by proper statistical analysis.

Within the project, ten substantive working papers suitable for later scientific publication have been produced based on LFS data (see Table 3.1 below). Given the available information in LFS sources, most of the papers centre around the education-employment linkage in European countries. Individual papers explore, for example, cross-national similarities and differences in the educational background of young people entering the labour market, as well as the nature and scope of educational expansion over the past decades (Müller and Wolbers, 1999), or the provision of dual forms of vocational training in European countries and their evolution over the last decade (Wolbers, 2000). On the labour market side, there are papers aimed at a broad descriptive overview of labour market outcomes for recent entrants into the labour force (e.g. Couppié and Mansuy, 2000a), which in part also provide country classifications in terms of relatively similar aggregate transition patterns (Couppié and Mansuy, 2000b; Gangl, 2000a). In addition, there is a set of more analytical papers using advanced multivariate statistical techniques for causal analyses of unemployment risks and employment outcomes among labour market entrants in different European countries (van der Velden and Wolbers, 2000; Gangl, 2000b, 2000c). And finally, there are two papers which use more detailed national LFS microdata in order to understand the peculiarities of transition outcomes in Southern Europe (Iannelli and Soro Bonmatí, 2000) and the effects of education on unemployment processes (Brauns et al., 1999).

Table 3.1
Overview of LFS Working Papers

Author(s)	*Title*	*Main Topics*
Hildegard Brauns, Markus Gangl, and Stefani Scherer (1999)	Education and unemployment: Patterns of labour market entry in France, the United Kingdom, and West Germany.	Role of education for avoiding extensive periods of initial job search and subsequent job instability in three European countries
Thomas Couppié and Michèle Mansuy (2000a)	The Position of New Entrants on European Labour Markets.	Overview of labour market outcomes among recent entrants to European labour markets
Thomas Couppié and Michèle Mansuy (2000b)	New Entrants and experienced workers on European Labour Markets.	Cross-national similarities and differences in various aspects of transition patterns, e.g. dual status situations, unemployment and employment outcomes
Markus Gangl (2000a)	European Perspectives on Labour Market Entry: A Matter of Institutional Linkages between Training Systems and Labour Markets?	Cross-national similarities and differences in the relations between labour force experience, qualifications and unemployment and employment outcomes
Markus Gangl (2000b)	Education and Labour Market Entry across Europe: the Impact of Institutional Arrangements in Training Systems and Labour Markets.	Cross-national similarities and differences in the role of education for unemployment and employment outcomes
Markus Gangl (2000c)	Changing Labour Markets and Early Career Outcomes: Labour Market Entry in Europe over the Past Decade.	Effects of macroeconomic and macro-structural trends on transition outcomes in Europe
Cristina Iannelli and Asunción Soro Bonmatí (2000)	The Transition from School to Work in Southern Europe: The Cases of Italy and Spain	Comparison of the patterns of transition from education to the labour market in Spain and Italy
Walter Müller and Maarten Wolbers (1999)	Educational attainment of young people in the European Union: cross-country variation of trends over time.	Cross-national similarities and differences in educational backgrounds of market entrants in Europe; similarities and differences in the nature of educational expansion
Rolf van der Velden and Maarten Wolbers (2000)	The integration of young people into the labour market within the European Union: the role of institutional settings.	Effects of institutional context factors on unemployment and employment outcomes
Maarten Wolbers (2000)	Learning and working: Double statuses in youth transitions within the European Union.	Cross-national similarities and differences in the incidence of combined training and work activities in Europe

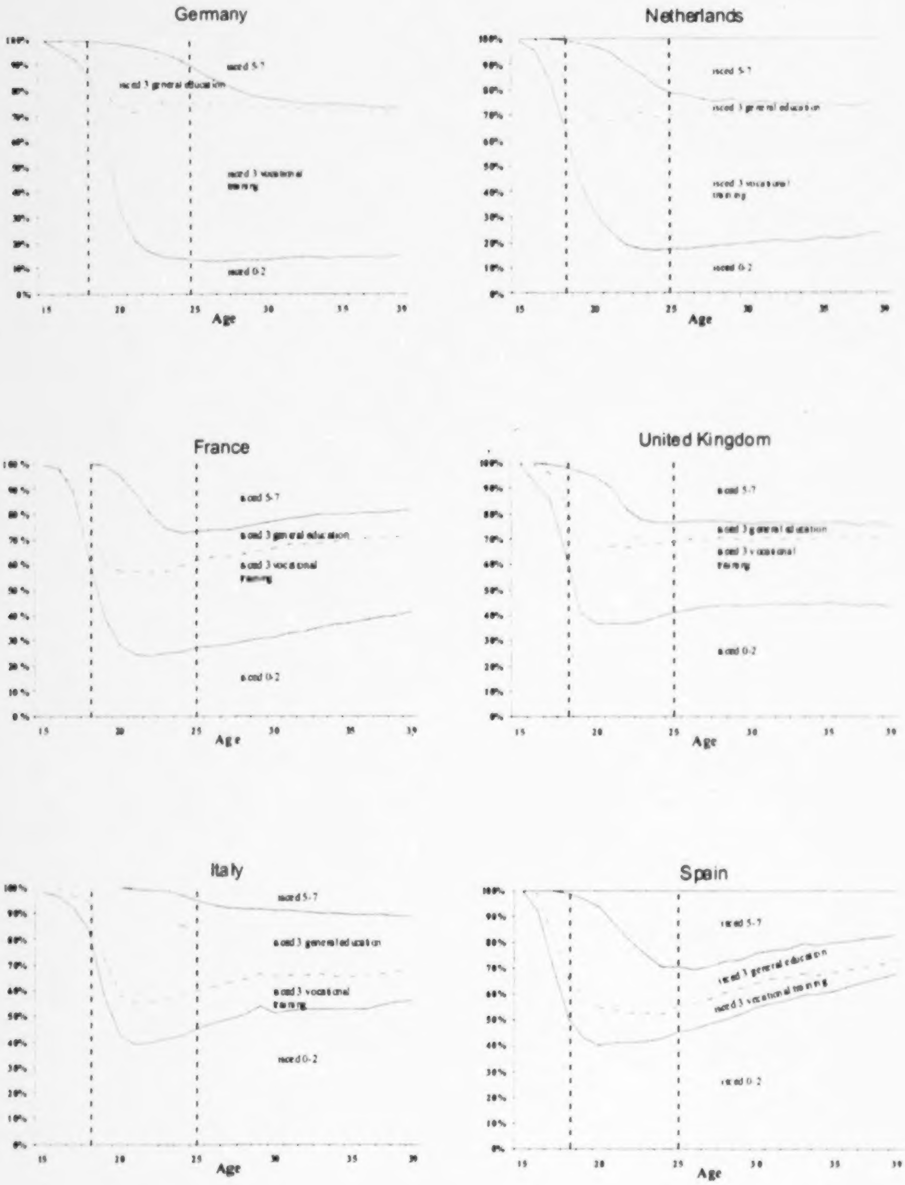
The following represents an attempt to provide a concise summary of the main results from our analyses. Rather than summarising individual papers, this review will be organised along the substantive themes covered, which have been touched upon in one or more of these analyses. More specifically, project results are reviewed for the issues of (a) educational achievement and the nature of qualifications among school leavers in Europe, (b) cross-national similarity and difference among European countries in terms of transition patterns from education to work, (c) the incidence of unemployment among market entrants and the role of educational, institutional, and other contextual determinants, and (d) the nature of employment outcomes in early career stage and their determinants across European countries.

3.5.1 Educational achievement and the nature of qualifications across Europe

In a certain sense, education is the key resource available to individuals to influence their labour market fortunes. Education and training represents an individual investment in qualifications which are afterwards rewarded on the labour market. This general relation already bears on the nature of education-to-work transitions as different types of training might be more or less effective in generating smooth patterns of labour market entry. To the extent that training systems vary between countries, the different resources institutionally provided to young people can be expected to lead to substantially different transition patterns in different European societies. And indeed, as amply shown in project research (notably Müller and Wolbers, 1999; Wolbers, 2000), the qualificational background of labour market entrants is strikingly different across European Union countries. These differences relate to both the level of educational attainment as well as the nature of qualifications obtained. More specifically, three broad country patterns seem to emerge from our data, which closely reflect the underlying institutional structures in education and training systems (Müller and Wolbers, 1999).

As a first type, there are those Continental countries operating extensive vocational training systems at the upper secondary level, like Austria, Denmark, Germany, and the Netherlands, but also the other Nordic countries Sweden and Finland. In all of these countries, the proportion of young people not progressing beyond compulsory education levels is very low, typically well below 15 per cent of a birth cohort. At the same time, a significant proportion of young people, typically 25 per cent of a cohort and more (with the exception of Austria), obtain tertiary level qualifications. But the most distinctive feature is the fact that almost everybody who left the educational system from the upper secondary level will have obtained occupationally-specific qualifications. Of course, these will mainly have been acquired in the context of dual system arrangements in Austria, Germany, and, to a lesser extent, in Denmark, while the dominant vocational training route will be school-based training in the Netherlands, Sweden and Finland. Compared to these countries, the aggregate pattern of educational attainment is somewhat different in the remaining Northern European countries, though. Broadly speaking, there is little difference between Northern European countries in terms of tertiary level graduation rates. The UK, and more so Ireland, France, and Belgium differ from the former set of countries mainly in the fact that fairly large proportions of upper secondary level leavers enter the market with general rather than vocational qualifications. In addition, the progression beyond compulsory education is significantly lower in these countries than in the other Northern European countries. In fact, Southern Europe constitutes a third empirical pattern, mostly distinguished from countries like the UK or France by the lower level of educational attainment (except Spain), rather than any difference in the vocational-general mix at the upper secondary level. If anything, then Southern European education and training systems provide even less vocationally-specific training than is the case in most Northern European countries. As an illustration to these distinctions, Figure 3.4 below depicts the life-cycle pattern of educational attainment in six exemplary European countries (Müller and Wolbers, 1999).

Figure 3.4
Educational Attainment by Age, Selected European Countries



Germany

Netherlands

France

United Kingdom

Italy

Spain

Source: Müller and Wolbers, 1999.

In part, these country differences are rapidly changing. As the analyses of Müller and Wolbers (1999) show, the nature and pace of educational expansion has varied significantly between European countries over the past two decades. Those countries, for example, which previously had the highest proportions of individuals with only compulsory education were

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also the most successful in reducing these proportions recently, while the Nordic countries or Germany and Austria have been much less able to reduce these figures below the levels already achieved a generation ago. In much the same vein, catching-up processes also occurred at the higher levels of education. Recent educational expansion of tertiary education has been occurring fastest in Southern European countries, notably in Spain and Portugal. Similarly large expansions took place in Ireland, France and the UK, while the respective trends have been much weaker in Austria, Germany and the Nordic countries. In sum, there are considerable trends under way towards converging educational levels among young people in different European countries.

While the levels of educational achievement may actually converge somewhat across European countries, it is much less likely that the more specific nature of initial qualifications provided will actually converge quickly. As has been indicated above, a crucial distinction between European countries is the extent to which education and training systems already provide occupationally-specific training (mostly at the upper secondary level). Most distinctive to systems providing occupationally-specific training are large-scale dual system arrangements as operated in Austria, Germany, but also school-based vocational training in the Netherlands. One might actually argue that these systems are merely an institutionally different solution for providing adequate training to young people. In cases where a dual system exists, training provision is more regulated and integrated more closely into the education system, while in countries lacking such arrangements, the respective training is provided by companies under their own auspices.

Results from the project cast some doubts on such optimistic perspectives, however. Unsurprisingly, an analysis by Wolbers (2000; see Table 3.2 below) clearly shows that participation in dual system training occurs most often in those countries operating large-scale dual systems. To a large extent, participants come from compulsory education backgrounds, that is, they participate in dual system training as a means to progress beyond the lowest level of education. Consistent with the above notion, Wolbers then also establishes a slightly higher tendency for Northern Europeans outside the core occupationalised systems to combine regular employment with further education. But apparently, this training occurs mostly among tertiary level graduates rather than the lowest qualified – effectively, it is thus very unlikely that dual system training foregone is made up by company training for the least qualified later on. That is, it is typically not those leaving from compulsory levels of education who receive subsequent company investments, but rather those individuals who already bring a high level of qualifications to the work place. To do full justice to Wolbers' results, one should also note that precisely those Northern European countries lacking large scale vocational training arrangements have been those which significantly extended the provision of training which combines learning and working. Neither in the traditional occupationalised systems nor in Southern Europe did the proportion of young people receiving such training change substantially over the last decade. In Southern Europe, in particular, the likelihood of receiving occupationally relevant training after leaving the education and training system is very low.

Table 3.2:
The Structure of Combined Work-Training Activities, by Institutional Contexts

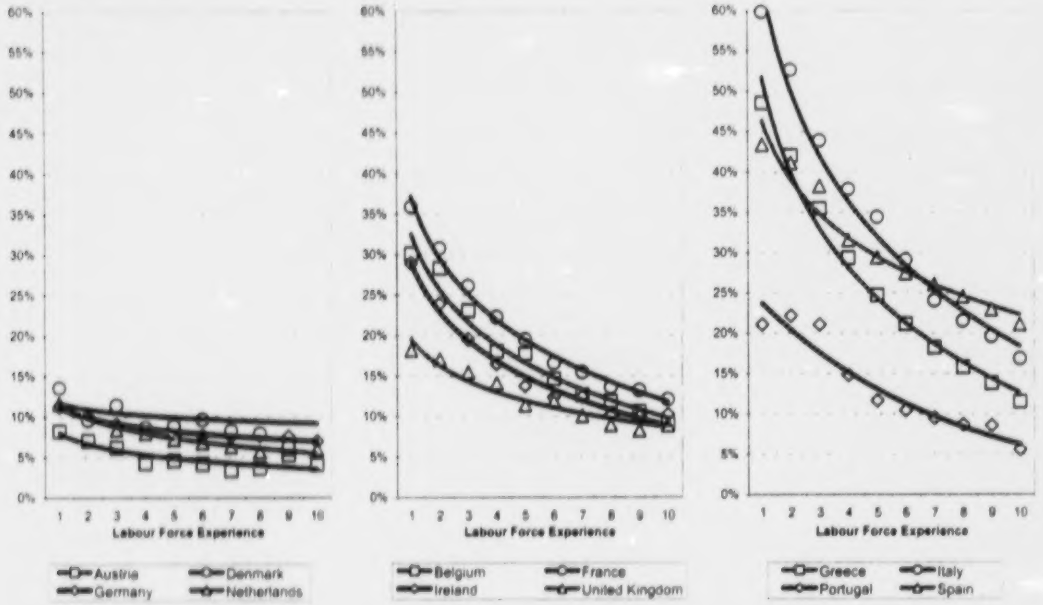
Study	*Macro-institutional Context*	*Effects*
Wolbers, 2000	Dual System Countries (incl. NL)	highest probability of dual system training, stable over time; less strong gender-typing of dual system training
	Southern Europe	lowest probability of dual system training, working students and further education among employed
	other European countries	relatively low probability of dual system training, but increasing over time; highest probability of further education among employed

3.5.2 Cross-national similarity and difference in transition outcomes: a broad perspective on labour market entry patterns in European countries

Conditional on leaving the education and training system, what are the similarities and differences between European countries in terms of labour market outcomes which occur on entering the labour force? And if differences occur, are there some countries which are relatively similar to each other in terms of the observed outcome patterns while others differ? Which contours does a European map of transition experiences show? In fact, these questions can be answered along numerous dimensions, each emphasising a particular aspect of labour market and employment outcomes. Within the project, most research has focused on unemployment on the one hand and job features like occupation, industry, and type of contract on the other, although alternative measures have also been considered to some extent (Couppié and Mansuy, 2000a, 2000b; Gangl, 2000a). In addition, these analyses attempted to arrive at a descriptive account of major similarities and differences in transition patterns between European countries, often yielding empirical classifications of countries according to observed similar transition patterns. Within the project, several approaches have been followed, focusing either more on cross-national variation in outcome distributions like proportions of dual system training, youth unemployment rates or average occupational status outcomes (Couppié and Mansuy, 2000b), or more on cross-national variation in the relations between qualifications, labour force experience and employment outcomes (Couppié and Mansuy, 2000a; Gangl, 2000a). In doing so, attention was given to both comparative perspectives on the features of national youth labour markets and the relationships between youth and adult labour markets.

In fact, there are some broad cross-national similarities between European countries in terms of labour market experiences among recent entrants to the market, notably as compared to those of more experienced workers (Couppié and Mansuy, 2000a, 2000b; Gangl, 2000a). Typically, unemployment rates are higher at the early career stages as people have to look for a first job or have been able to secure only fairly uncertain jobs in the beginning (Couppié and Mansuy, 2000a, 2000b; Gangl, 2000a). Similarly, those entering the market are disproportionately allocated to low-skilled service-sector jobs (Couppié and Mansuy, 2000a, 2000b; Gangl, 2000a), often under fairly precarious contract conditions, as signified, for example, by the higher incidence of fixed-term contracts among market entrants (Couppié and Mansuy, 2000a). Moreover, transitions between labour market statuses of employment, unemployment, and inactivity occur much more often among market entrants compared to more experienced workers (Couppié and Mansuy, 2000a).

Figure 3.5
Unemployment Rates and Labour Force Experience



Notes: Leavers from ISCED level 3; lines represent results from logarithmic smoothing.

Source: Gangl, 2000a.

On the other hand, it is important to recognise that national transition patterns are far from identical, even if some aspects are common to most, if not all, of them. Indeed, countries differ markedly with respect to some core aspects of youth transition experiences. There are some countries where unemployment risks among market entrants are markedly more pronounced than those for more experienced workers. The Southern European countries, but also France, are examples for these (cf. Figure 3.5 above as an illustration for the group of leavers from upper secondary (ISCED level 3) education). But there are also other countries where this relationship is extremely weak, so that unemployment rates among market entrants closely parallel those among more experienced workers. Austria, Denmark, Germany, and the Netherlands would be examples of the latter group of countries (Couppié and Mansuy, 2000a, 2000b; Gangl, 2000a). In much the same way, the degree of disproportionate allocation to lower-level employment or to the service sector varies between European countries: while many young people enter the labour market at particularly low job levels and then progress over their initial years in the labour market in terms of occupational status or similar measures of job characteristics, this tendency is significantly weaker in Germany or Austria, for example (Couppié and Mansuy, 2000a; Gangl, 2000a). Also, it seems relatively common

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among European countries, that a considerable proportion of new entrants to the market enter non-standard forms of employment, which are then increasingly left over the initial years in the labour force. Typically, some 20 per cent of an entry cohort held temporary contracts in their first year on the market, although the Nordic countries, and even more so Spain exhibit markedly higher figures, with estimates ranging even up to 80 per cent in the Spanish case (Couppié and Mansuy, 2000a). In many respects, similar patterns are also evident in the case of part-time employment. While part-time employment in general is much less specific to the early career stage, Couppié and Mansuy (2000a) show that the incidence of involuntary part-time contracts clearly declines with increasing labour force experience in almost all European countries. But again, countries differ remarkably in the extent to which young people have to accept involuntary part-time employment: notably in Belgium, France, Sweden and Finland the respective proportions amounted to well above 10 per cent among new entrants to the labour market.

These findings of important heterogeneity among the countries also extend to particular types of labour market mobility. While it is true for many countries that young people are faster to leave unemployment, there are important exceptions to this rule. In neither Italy nor Greece does the likelihood of leaving unemployment vary by experience, and the same holds for the UK; at the same time, the transition rates from unemployment to employment in the UK are about twice those for Greece and Italy (Couppié and Mansuy, 2000a; cf. Figures 3.6 and 3.7 below). Similar observations can be made with respect to the probability of losing employment and subsequently entering unemployment, where most countries exhibit a modestly negative relationship with increasing work experience. Spain and France, in particular, experience excessively high inflow rates among market entrants, however (Couppié and Mansuy, 2000a; cf. Figure 3.6 below). Behind all these descriptive findings, the main substantive result is to realise that European countries differ much less in terms of labour market outcomes among experienced workers than they do in terms of outcomes among market entrants. To the extent labour market entrants' fortunes differ across European countries, this reflects cross-national variation in the relative competitiveness of those leaving the education and training systems, that is, the extent to which market entrants achieve similar outcomes as experienced workers along a number of dimensions. Variation in this relationship is at the core of empirically distinguishable 'transition systems' among European countries.

Figure 3.6: Job exit rates among individuals employed in the previous year, by labour force experience

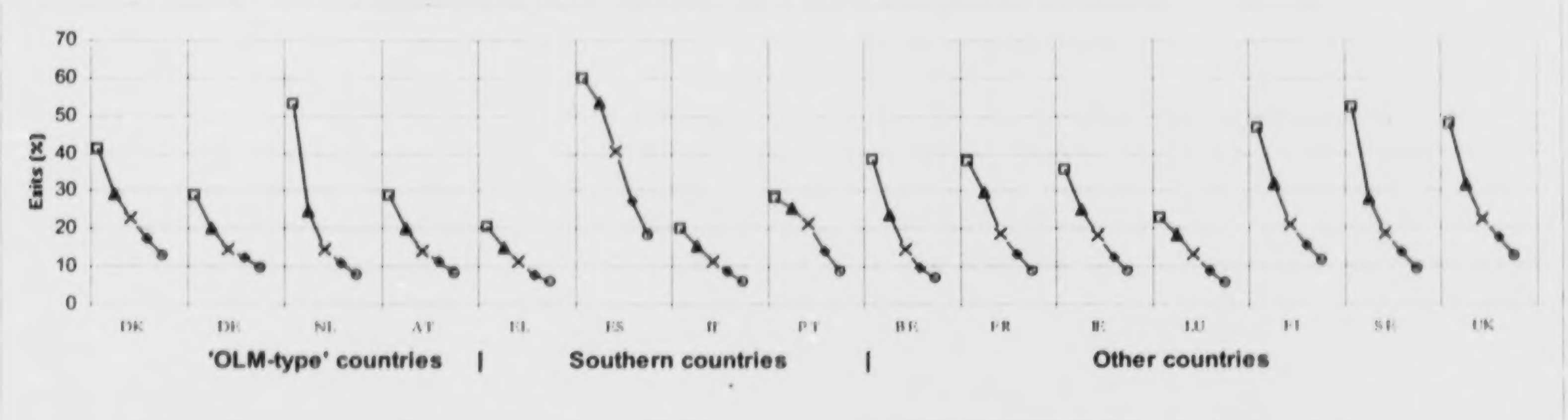
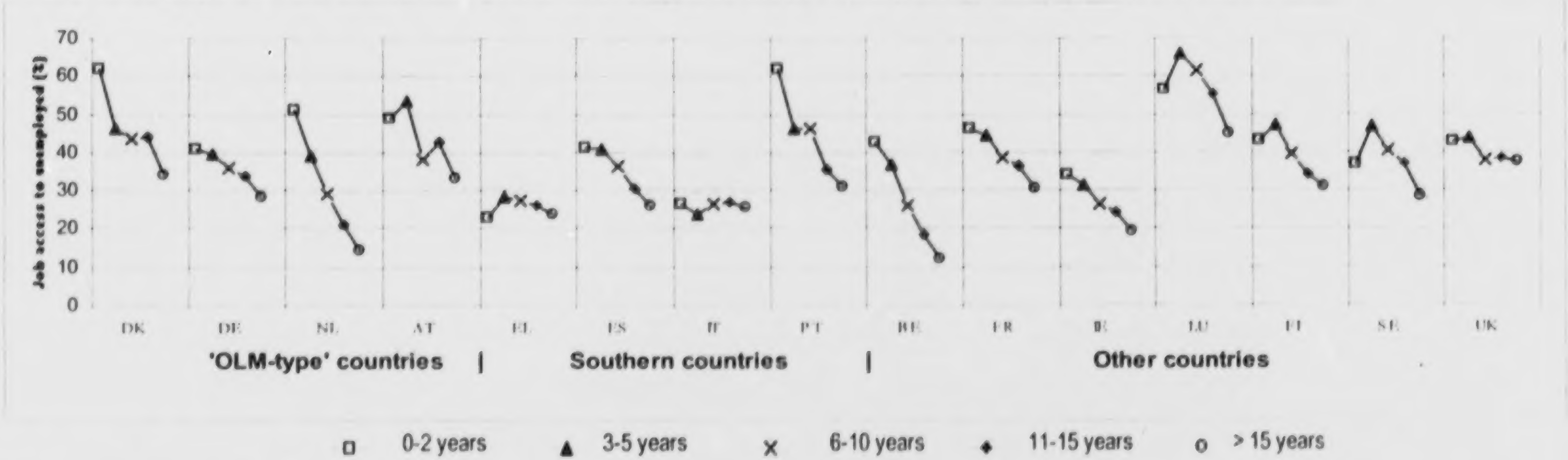


Figure 3.7: Reemployment rate among individuals unemployed in the previous year, by labour force experience



Sources: Couppié and Mansuy, 2000a

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The case for institutional explanations of market entrants' competitiveness in different countries could be strengthened if one were able to show that countries exhibiting similar institutional frameworks in training systems and labour markets are actually relatively similar in such overall transition patterns. In our analyses, we have attempted to demonstrate this by exploring the nature of cross-national similarities and differences on a number of labour market dimensions from cluster analyses (Couppié and Mansuy, 2000b; Gangl, 2000a). And although the technique is exploratory in nature, it does show some intriguing profiles of European differences in transition patterns. Our different analyses reliably singled out two polar transition patterns deviating clearly from the rest of Europe: the occupationalised systems of Austria, Denmark, the Netherlands, and Germany, on the one hand, and the Southern European countries, including Italy, Greece, and Portugal at least, on the other.

The main features of the first ideal-typical pattern was that, by and large, market entrants achieve only slightly less favourable market outcomes than more experienced workers, in terms of both unemployment and job characteristics. In contrast, in countries like the UK, France and Ireland, market entrants are significantly disadvantaged compared to more experienced workers on both dimensions. The Southern countries, in turn, deviate from this pattern by even more marked disadvantages to market entrants in terms of unemployment risks, but even more so in the low level of mobility between labour market statuses, once initial employment has been secured. Labour markets in Northern European countries exhibit much larger mobility rates between employers and between employment and unemployment than is the case in the typical Southern European experience. In fact, this criterion yields a major reason for considering youth experiences in, for example, Spain as relatively similar to France rather than to Portugal.

Compared to the polar cases, further divisions among the remaining European countries emerged less clearly. It is clear that the remaining countries comprising France, the UK, Belgium, Ireland, Spain, but possibly also Sweden and Finland, form a much less homogeneous set of transition profiles than those described earlier. It is certainly possible to draw finer distinctions among transition patterns in these countries, but our research based on LFS data has so far not given definite results. Depending very much on the particular indicators considered, sometimes Britain and Ireland could be distinguished from a particular French pattern, but in other analyses Ireland became included among the Southern European countries. Clearly, this uncertainty in the results reflects, to a large part, the exploratory nature of the particular methodology applied and differences between the analyses in terms of the precise indicators utilised. But in fact, as some fairly clear-cut broad types of different national transition patterns seem to characterise the overall European experience, there appears some scope for institutionally-based explanations of these patterns. It is to these to which we now turn.

3.5.3 Unemployment risks: education, institutions, and socio-economic context conditions

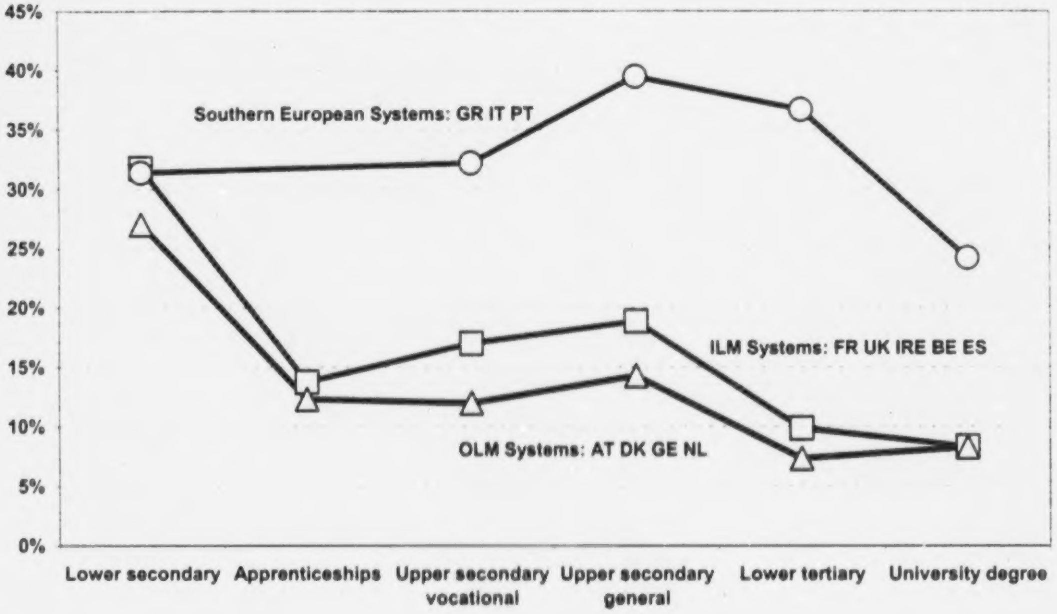
Among the various aspects of school-to-work transitions of potential interest, the project's more specific and most sophisticated analyses have focused on two core labour market outcomes, namely unemployment risks and employment outcomes among labour market entrants. In the respective analyses, we attempted to explain these transition outcomes by adequately accounting for both the role of individual resources and characteristics and the impact of particular institutional contexts and other macrostructural and socio-economic context conditions (van der Velden and Wolbers, 2000; Gangl, 2000b, 2000c). In order to properly accomplish this task, the three relevant papers applied several variants of multilevel analysis as a methodological innovation in comparative empirical research. While this section will summarise our results with respect to determinants of unemployment risks, the subsequent section will discuss the determinants of specific employment outcomes in greater detail.

Among the many factors which could potentially be linked to the incidence of unemployment, our results mainly concern three types of determinants: individual education and training (Gangl, 2000b; Brauns et al., 1999), institutional features of both education and training systems and labour markets (van der Velden and Wolbers, 2000; Gangl, 2000b), and socio-economic context conditions (Gangl, 2000c). Unsurprisingly, each factor turns out to have important consequences for the extent of labour market integration problems among recent entrants. Education and training, for example, is the primary individual resource for avoiding unemployment at entering the labour market. In general and controlling for other factors, the higher the individual level of education attained, the lower the risk of unemployment incidence in the early career stage. At the same time, vocational training, notably if obtained in the context of dual training arrangements, also contributes to lower unemployment risks (van der Velden and Wolbers, 2000; Gangl, 2000b). Figure 3.8 below represents these relationships graphically, based on a multilevel model which controls for other individual factors, as well as institutional and economic context factors.

However, the interesting result is that this relationship does not hold in all European countries; rather, there is systematic institutional variation as to whether educational credentials serve to lower the individual risk of unemployment. In fact, there is little variation among, broadly speaking, Northern European countries, except for the better performance of those who achieve school-based vocational training in occupationalised labour market contexts like Germany and the Netherlands. That is, apprenticeships and similar types of dual system training lead to lower unemployment rates than those of upper secondary general tracks in both occupationalised and less occupationally structured systems. The difference between these two types of transition systems lies in the fact that leavers from school-based vocational training face lower unemployment rates in more occupationalised contexts. This finding seems to support the reasoning that appropriate vocational specialisation is important to integrate young people into the labour force in markets exhibiting strong occupational boundaries (irrespective of whether the qualification is obtained from school-based or dual forms of training), while in less tightly structured systems it is more the actual training contract with a particular employer (as an apprentice or otherwise) which reduces subsequent unemployment risks.

But the main institutional divergence occurs in Southern European countries, where the level and type of education hardly affects unemployment risks at all. That is, while low qualified school leavers do not face particularly different unemployment risks compared to their Northern European counterparts, unemployment rates among leavers from upper secondary education and even among university graduates are at similar levels to, rather than substantially lower than, those among the least qualified. In contrast to Northern Europe, unemployment in the early career stages is a particular problem of the highly qualified in the South rather than among the least qualified. In fact, the nature of unemployment itself is thus likely to be very different between Northern and Southern Europe.

Figure 3.8
Unemployment among Market Entrants: Effects of Education and Institutional Context



Notes: Predicted probabilities at mean individual covariates and macrolevel context conditions, based on multilevel regression estimation.

Source: Gangl, 2000b

In order to deepen our understanding about the role of education in actual unemployment processes underlying the above results, we have conducted a more sophisticated analysis of educational effects on unemployment processes based on LFS microdata for France, the United Kingdom, and Germany (Brauns et al., 1999). In that analysis, we estimated a two-stage model of the labour market entry process, distinguishing between unemployment risks due to prolonged initial job search and unemployment risks related to the instability of initial employment found. From this analysis, it appeared that educational resources have reinforcing effects on both stages, that is, those qualifications which provide relatively smooth access to first jobs also typically provide access to more stable employment. This applies in particular to apprenticeships, which are found to provide not only almost immediate access to employment (e.g. by continued employment in the training firm), but also relatively secure first jobs.

Apart from this different role of education in labour market allocation processes, the institutional structure of education and training systems actually exerts a crucial influence in itself as it determines the qualificational resources available to labour market entrants to a large extent. Those countries operating large-scale dual systems of training provision experience significantly lower unemployment rates in the transition period because a large proportion of those leaving the education and training system have acquired a qualification which implies direct access to subsequent employment (van der Velden and Wolbers, 2000; Gangl, 2000b). According to estimates from Gangl (2000b), this effect alone amounts to lower aggregate unemployment rates among labour market entrants in dual system countries (including the Netherlands) by 5 percentage points as compared to the other Northern European countries. In addition, there is also a composition effect of educational levels on unemployment rates, which further disadvantages the Southern European countries as compared to Northern Europe: the higher the level of education among market entrants, the lower a country's unemployment rate among this group. Beyond these institutional effects of educational systems and broad labour market contexts, there is little evidence for other relevant institutional factors. Van der Velden and Wolbers (2000) tested for effects of a number of institutional features of labour markets, including wage bargaining structures, union density, the extent of youth activation and training measures among others, but none of these receives clear empirical support. Only in the case of the strictness of employment protection legislation, they find evidence for a small positive effect on unemployment. That is, the better protected the core work force, the more difficult it is for youth to successfully compete in securing employment. On the other hand, this effect did not receive clear support as soon as the structure of training systems was simultaneously controlled for.

Table 3.3

Institutional Effects On Unemployment Rates among Market Entrants

Study	*Institutional Variable*	*Effects*
van der Velden / Wolbers, 2000	Centralised Wage Bargaining	negative, not significant
	Union Density	no effect
	Employment Protection	positive, not significant
	Vocational Specificity / Educ.	no effect
	Dual System	negative
	Tracking / Second. Educ. System	no effect
Gangl, 2000b	Apprenticeship Systems	negative
	Occupationalized Markets	negative (for vocational qualifications)
	Southern Europe	positive (for better qualified)
Gangl, 2000c	Interaction of macroeconomic trends and three macroinstitutional contexts	cyclical effects less pronounced in Southern Europe

At the same time, young people's labour market fortunes are not isolated from the evolution of the labour market in general. It is not only individual qualifications and national institutional contexts which affect unemployment risks in early career stages, but obviously also the broader structural context. The role of aggregate macroeconomic conditions, measured by either aggregate unemployment rates or employment growth rates, is a key determinant of unemployment risks among recent entrants to the labour market (van der Velden and Wolbers, 2000; Gangl, 2000b, 2000c). Those in their early career stages are particularly affected by cyclical market swings as they are typically among the less competitive individuals on the market and have not yet entered stable permanent job positions. In each recessionary period, unemployment rates among market entrants increase relatively stronger than aggregate rates, but they also decline more strongly in more buoyant times. As more detailed analyses show, it is the lowest qualified school leavers whose labour market chances are particularly vulnerable to cyclical macroeconomic developments (Gangl, 2000c). But there is yet another important reason why those entering the labour market with low qualifications form a particular problem group. According to the results in Gangl (2000c), ongoing professionalisation of the labour force and related increases in skill requirements increasingly work against the lowest qualified school leavers. In addition, there is no evidence that any European country is exempted from this tendency.

3.5.4 Types of jobs and the nature of employment contracts: some determinants

Understanding unemployment risks is one important element in understanding transition processes, yet the flip side of the coin is to understand young people's employment outcomes in their early career stages. Several of the project analyses have touched on these matters by addressing the nature of occupational allocation of labour market entrants (Gangl, 2000b, 2000c) and the types of contracts obtained initially (van der Velden and Wolbers, 2000). We have not conducted any analysis on wage or earnings outcomes as no measures on them are provided in the EULFS, at least up to the 1997 wave which has been the most recent one considered in our work. And as in the case of unemployment, our main analytical interests focused on the role of education and training, institutions and socio-economic context factors in generating job outcomes at the start of individual careers.

In fact, the role of education and training as a major individual resource in job competition emerges very clearly from our analyses. The higher the level of education attained, the higher the occupational status of job positions (Gangl, 2000b), the lower the likelihood of entering into low-skilled jobs (Gangl, 2000b), the higher the probability of accessing professional job positions already in the early career stage (Gangl, 2000b), the lower the probability of obtaining fixed-term or otherwise temporary job contracts (van der Velden and Wolbers, 2000), and the higher the likelihood of having a full-time contract (van der Velden and Wolbers, 2000). And more specifically, it turns out that some of the particular advantages of apprenticeship contracts in terms of unemployment risks come at the expense of allocation to lower level jobs: compared to leavers from general or school-based vocational tracks at the upper secondary level, apprentices attain employment in lower status occupations and run a higher risk of entering low-skilled jobs. In fact, there are few indications that these relationships vary dramatically between the various European countries: in general, macro-institutional differences play a much more limited role with respect to employment outcomes among labour market entrants than is the case with respect to unemployment risks in the early career stages.

Again, there is a certain role to play on the part of the institutional structure of education and training systems. In an almost trivial sense, the higher the level of educational attainment in a cohort entering the labour market, the higher will be the level of jobs for which they compete. The still lower educational levels in Southern Europe explain the, on average, lower occupational attainment levels in the early career stages there to a good deal already (Gangl, 2000b). But potentially more interesting are the favourable effects of large scale dual systems or similar forms of vocationally specific training provision. According to our results, the presence of such systems lowers the incidence of low-skilled employment (Gangl, 2000b) and temporary contracts (van der Velden and Wolbers, 2000) among young people entering the labour market. To which extent this effect is due to the occupational specificity of the training provided itself or to the fact that the offered training tracks represent a low-threshold option for attaining education and training beyond compulsory levels is an open question to future research – but the effect itself is undeniably there.

Table 3.4

Institutional Effects On Employment Outcomes among Market Entrants

Study / Dependent Variable	*Institutional Variable*	*Effects*
van der Velden / Wolbers, 2000: Temporary Contract	Centralised Wage Bargaining	negative, not significant
	Union Density	no effect
	Employment Protection	positive
	Vocational Specificity / Educ.	no effect
	Dual System	negative
	Tracking / Second. Educ. System	no effect
van der Velden / Wolbers, 2000: Part-Time Employment	Centralised Wage Bargaining	positive, not significant
	Union Density	no effect
	Employment Protection	negative, not significant
	Vocational Specificity / Educ.	positive
	Dual System	negative, not significant
	Tracking / Second. Educ. System	negative, not significant
Gangl, 2000b: Occupational Status	Apprenticeship Systems	small negative effect
	Occupationalised Markets	no effect
	Southern Europe	no effect
Gangl, 2000b: Occupational Segment	Apprenticeship Systems	negative for secondary sector employment
	Occupationalized Markets	positive for professional employment
	Southern Europe	no effect
Gangl, 2000c: Occupational Status	Interaction of macroeconomic trends and three macro-institutional contexts	positive effects of professionalisation strongest in OLM countries, negative effects of educational expansion strongest in Southern Europe
Gangl, 2000c: Occupational Segment	Interaction of macroeconomic trends and three macro-institutional contexts	positive effects of professionalisation strongest in OLM countries

Apart from this, there is also some evidence for slightly different allocation mechanisms operating in the occupationalised markets of Austria, Denmark, Germany, and the Netherlands. In these systems, occupational allocation tends to be more strongly skill-based: as job competition relies more heavily on (formally certified) skills rather than experience, those entering the labour market in such contexts are relatively more competitive to adult workers than is the case in systems less reliant on certified skills. Hence, occupational and employment outcomes reflect more adequate matches at earlier career stages than elsewhere. In support of this reasoning, Gangl (2000b) provides evidence that higher levels of education provide more protection from entering low-skilled jobs in occupationalised systems, and that leavers from tertiary level education are much more likely to attain professional positions already at the outset of their careers. In addition, van der Velden and Wolbers (2000) establish an effect of the strictness of employment protection on labour market entrants' job outcomes. Paradoxically at first glance, the probability of obtaining initial employment on a fixed-term or temporary basis is higher in countries with stricter employment protection legislation. In fact, this might indicate a deliberate strategy to flexibilise youth labour markets so as to facilitate youth labour market integration, without at the same time sacrificing protection standards for the core work force (cf. Schröder, 2000). For the several other institutional indicators as tested in van der Velden and Wolbers (2000), results have not shown significant effects.

In addition to these individual and institutional factors, the impact of macrostructural context factors is far from negligible. Actually, however, the role of aggregate macroeconomic conditions is much less important for occupational allocation and employment outcomes than for unemployment risks discussed earlier. At best, macroeconomic conditions determine only to a small part the extent to which those entering the labour market are allocated to lower level positions. In tighter labour markets, young people are disproportionately allocated into low-skilled and temporary jobs (Gangl, 2000b; van der Velden and Wolbers, 2000), and this allocation pattern is much less responsive to cyclical changes than are unemployment risks. Whether temporary jobs themselves are, in turn, more sensitive to the business cycle than permanent jobs, as they may have the role of a buffer to changes in product demand, is an open question for future research.

But what turns out to be much more important to employment outcomes among labour market entrants is the (changing) balance between individual qualifications and skill demands on the market. Our analyses clearly show that *net changes* in the relative balance between supplied and demanded skills have important implications for employment outcomes among school leavers. In general, an increasing supply of better qualified market entrants triggers changes in allocation patterns at otherwise unchanged market conditions as better qualified leavers become substituted for less qualified ones. As a consequence, increasing levels of educational attainment have diminishing individual absolute and relative advantages as a by-product: on average, educational expansion implies lower occupational status outcomes, higher risks of low-skilled jobs, and decreasing probabilities of entering professional positions (Gangl, 2000b, 2000c). In addition, educational expansion has also been accompanied by an expansion of part-time employment (van der Velden and Wolbers, 2000). Given the current trend of expansion at the tertiary level, the triggered adjustment reactions have, of course, mostly implied declining occupational returns among tertiary level leavers, and to a lesser extent, also among leavers from upper secondary education (Gangl, 2000c). As with many other results reviewed before, there is no indication in our data that these processes occur differently in different European countries. If anything, downward substitution pressures have even been somewhat stronger among tertiary level graduates in Southern European countries, potentially related to the strong ongoing catching-up processes in patterns of educational attainment.

But as stated earlier, the net outcome of these developments is dependent on parallel changes in the structure of labour markets. To the extent that labour markets begin to utilise the higher level of supplied skills adequately, an increasing professionalisation of labour market demand actually counteracts the effects of educational expansion as young people in all European countries benefit from the increasing availability of employment positions appropriate to their skill levels (Gangl, 2000c). There is strong evidence that such labour market developments actually occurred, although probably somewhat time-lagged. That is, empirically, we do not observe particularly pervasive net changes in occupational outcome patterns over the past decades despite tremendous educational expansion because labour markets happened to generate increasing levels of demand for high-skill jobs. To understand if that correlation was purely incidental or whether both developments have in fact been closely interrelated and potentially intensified each other would appear as a pressing task for future research – not least in order to have clearer views on the policy implications of even further educational expansion. It might be that diminishing returns to education in the short run are an expression of short-run costs of adjustment to a modernised economic structure, which are in part borne by those entering the market in a period of restructuring. As this is still somewhat tentative, future research is clearly needed to provide answers on the nature of such driving forces behind changing patterns of occupational allocation.

3.5.5 Summary

In sum, the project's analyses based on LFS data have stressed both the considerable similarity and also the substantial heterogeneity in European transition patterns. There are striking differences among EU member states in terms of the levels and types of qualifications which market entrants have at their disposal. There are important differences between the countries in terms of the institutional nature of training provision. There are excessively large differences between countries in terms of unemployment risks for those in their early career stages. And there are important differences in the types of jobs and the nature of employment contracts attained by young people. In fact, the project's exploratory attempts to describe the variety of European transition patterns did not result in any definite picture of a European 'map' of transition experiences. Still, it is probably fair to conclude that we have been able to bring out some contours more clearly than can be done on the basis of previous research: while the exceptional position of traditional dual system countries has already been the matter of much scholarly debate, notably in contrast to various other Northern European countries, the particular conditions applying in most Southern European countries have typically gone unnoticed in comparative research to date.

Nevertheless, as shown by the more advanced analyses in the project, this heterogeneity of experiences does not necessarily defy systematic explanation. That is, the similarities and differences in European transition patterns described in this section can probably be explained as arising from some general underlying mechanisms which apply to all countries. In fact, for all the particular outcomes considered, we have compiled evidence of the importance of individual resources, notably education, institutional factors and broader socio-economic context conditions in generating the observed transition patterns. Typically, cross-national differences in the *effects* of any such resources and structural factors on youth labour market integration are quite small. For example, while there is some evidence for cross-national differences in the labour market value of (particular types of) education, the magnitude of such effects is often far from compelling. Similarly, there is little evidence that ongoing labour market changes affect young people in different ways in different European countries – what does differ between countries is the extent of macroeconomic turbulences rather than their effects on transition outcomes.

Still, institutional factors often attain a prominent place in the explanation of cross-national similarities and differences. Country differences in macro-structural context conditions are usually of limited power in comparative explanations. In fact, a large part of cross-national variation turns out to be stable over time and cyclical economic changes, thus necessitating institutionally-based explanations. Among these, three particular institutional complexes figure prominently in our results: First, the institutional structure of education and training systems because this largely determines the nature of qualificational resources available to market entrants. Countries where young people achieve higher levels of education, as well as those countries operating large scale systems of vocational training, provide young people with a better start into working life. Second, the institutional labour market context, which governs the transformation of educational resources into employment outcomes. There are two aspects which have been addressed more extensively in project work, namely the role of occupational labour markets and the effects of employment protection legislation. It seems that occupationalised labour market contexts, that is, those labour markets tightly structured by occupational boundaries arising, for example, from the nature of educational supply and/or union action in recruitment processes, provide some advantages to young people as job competition relies more strongly on skills rather than experience. Hence, the relative competitiveness of young people is increased relative to systems more reliant on experience on the market.

Finally, there is the issue of potential effects of employment protection legislation, which is often expected to negatively affect youth labour market integration. We have not found any evidence which would support this assumption. Rather, the evidence seems rather more consistent with a view that in more tightly regulated systems, the use of *flexibly regulated* forms of employment contracts (like fixed-term contracts or special forms of combined work-training contracts) is particularly widespread as a *regulated* means to foster the integration of young people into the labour market, rather than regulation amounting to a genuine impediment to integration itself. Countries like Italy and Greece are probably among those countries where such an argument is least likely to sound plausible, as tight employment protection standards are enforced, but provisions for flexible contracts to achieve youth integration are not really common, and both youth unemployment rates and the proportion of first-time job seekers among the unemployed are substantial. Still, we have little direct or indirect evidence for a destructive role of employment protection in the sense that employers appear particularly hesitant to recruit school leavers. In fact, two results we have obtained might be taken as indicative of the potentially crucial role of differences in supply-side behaviour for bringing about particular transition patterns in Southern Europe: empirically, what is specific about unemployment in, for example, Italy or Greece is the extent to which leavers from upper secondary, and even more so from tertiary, levels of education are

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affected. This is very much in contrast with what would have to be expected if employment protection were the main problem. In addition, there is some evidence that cyclical fluctuations in youth unemployment rates are considerably lower in most Southern European countries, which might also tentatively indicate a less dominant role of demand-side behaviour in shaping transition outcomes for young people.

3.6 MAIN FINDINGS FROM ANALYSES OF THE SCHOOL LEAVERS' SURVEY DATA

Section 3.5 has presented the main findings of analyses of Labour Force Survey data for fifteen European countries. In contrast, school leaver survey data are available for only five countries: France, Ireland, the Netherlands, Scotland and Sweden. While certain types of systems (in particular, dual system and Mediterranean countries) are excluded from this group, important differences related to distinct dimensions of educational differentiation and forms of labour market regulation are captured within the group.

All of the systems can be regarded as highly standardised but differ in the extent and nature of differentiation within the same stage, and at the end of each stage, of education. The Netherlands has the most highly track-differentiated system with a distinction at both lower and upper secondary level between (different types of) academic and vocational courses. In France, there is a significant degree of tracking at upper secondary level, with different types of lycées and students studying for the BEP/CAP or different types of general or vocational Baccalauréat. Sweden represents an intermediate case, with over half of those at upper secondary level taking vocational programmes, albeit ones with a strong general component and little institutionalised linkage to the labour market.

Ireland can be broadly characterised as a 'general' educational system, although track differentiation at upper secondary level has become increasingly apparent in recent years. Post-Leaving Certificate (PLC) vocational courses are provided within the school-based systems while two new programme options (the Vocational and Applied Programmes) have become available within the general upper secondary examination system. Scotland probably represents the clearest example of an undifferentiated school-based system, albeit with a number of students taking a mix of academic Highers and vocational modules. For some purposes, upper secondary provision in Scotland can be seen as encompassing a range of differentiated provision, including full-time school, Further Education (typically vocational or pre-vocational) and work-based training provision. However, because of the nature of the sample in the Scottish school leavers' survey, for the purposes of this study we focus only on leavers from the school-based system, counting other forms of upper secondary provision as equivalent to early labour market destinations.

The five countries also differ in the nature of formal differentiation at the end of each educational stage. Some systems (such as Ireland) have a highly differentiated grading structure with examination candidates awarded grades for individual subjects which may be taken at a number of curricular levels. Differentiated grading systems are also employed in Scotland, Sweden and the Netherlands. In contrast, systems, such as France and the Netherlands, differentiate only between 'passing' and 'failing' a particular stage.

In sum, while school leaver survey data are unable to depict the whole range of education, training and labour market systems across Europe, they are nonetheless able to capture important dimensions of institutional variation in the transition process. In total, twelve working papers were prepared using the integrated school leavers' databases (see Table 3.5). These papers explored a range of topics, including cross-national variation in transition processes, participation in post-school training and differences among groups of young people in terms of gender and ethnicity. The following sections outline the main findings of these papers in terms of (i) educational outcomes, (ii) the relationship between education and the labour market, (iii) post-school training, and (iv) the social structuration of transition processes.

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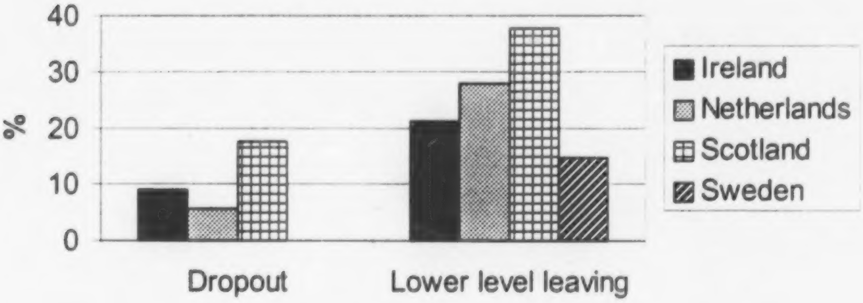
Table 3.5: Overview of SLS working papers

Author(s)	*Title*	*Topic(s)*
Grelet, Y., Mansuy, M., Thomas, G. (2000a)	Transition from school to work and early labour force history	Cross-national differences and similarities in the nature of transition processes
Grelet, Y., Mansuy, M., Thomas, G. (2000b)	The transition process: towards exclusion or financial sufficiency, a French-Irish comparison	Prevalence of non-employment and low pay over the first five years in the labour market
Hartkamp, J. and Rutjes, H. (2000a)	A route to skills: a comparative analysis of the position of apprenticeship in transition systems in France, Ireland, the Netherlands and Scotland	The level and nature of post-school apprenticeship participation across countries
Hartkamp, J. and Rutjes, H. (2000b)	Apprenticeship in Ireland, the Netherlands and Scotland: comparison of trends 1979-1997	The level and nature of post-school apprenticeship participation across countries and over time
Iannelli, C. (2000)	School effects on youth transitions in Ireland, Scotland and the Netherlands	Variation between schools within countries in post-school principal activity
Iannelli, C. and Raffe, D. (2000)	Vocational upper-secondary education and the transition from school to work	Comparison of vocational and academic routes in Ireland, the Netherlands, Scotland and Sweden
Mansuy, M. and Schröder, L. (2000)	Immigrant youth in the labour market in France and Sweden	Educational and labour market characteristics of immigrant youth in the two countries
McCoy, S. (2000a)	Relative labour market disadvantage amongst the least qualified in Ireland, Scotland, the Netherlands, France and Sweden	Cross-national variation in the labour market position of the least qualified
McCoy, S. (2000b)	Relative labour market disadvantage among the least qualified: Ireland, the Netherlands and Scotland, 1979-1997	Variation across countries and over time in the labour market position of the least qualified
Schröder, L. (2000)	The role of youth programmes in the transition from school to work	Level and nature of participation in youth programmes across countries
Smyth, E. (2000a)	Gender differentiation in education and transition outcomes	Cross-national differences and similarities in education and transition outcomes among women and men
Smyth, E. (2000b)	Gender differentiation in education and early labour market outcomes over time: a comparative analysis	Variation across countries and over time in education and transition outcomes among women and men

3.6.1 Educational outcomes

Certain measures of educational attainment, such as CASMIN and ISCED, had been commonly used in previous cross-national studies. However, for our purposes these measures proved problematic. Firstly, school-leavers in our samples were not necessarily at the end of their education/training career. Secondly, these measures often ignored some of the dimensions of education which are conceptually and empirically important, at least in certain national contexts (such as examination grades). For this reason, we derived several dimensions of educational outcomes which we could use to capture the full complexity of cross-national variation; these included age on leaving school, educational level (incorporating stage and qualifications achieved), curricular track, grades received and subjects/courses taken (see CATEWE, 1999; Brannen, Smyth, 2000).

Figure 3.9: Cross-national variation in educational level (1995/7)



Source: Calculated from McCoy (2000a).

It was hypothesised that the institutional nature of the educational system would influence the proportion of young people exiting at different stages of their schooling. More specifically, it was expected that more general educational systems (such as Ireland) would have a higher proportion of less qualified leavers due to their comparative failure to retain those less academically oriented (McCoy, 2000a). While significant cross-national differences were apparent, this hypothesis was not wholly confirmed. Two distinct measures of lower qualifications were tested: 'drop-out', exiting the school system without any qualifications, and 'lower level leaving', exiting the school system without attempting upper secondary qualifications, a measure that also included 'drop-out'. The nature of cross-national variation depended on the precise measure of educational level used (see Figure 3.9). Rates of 'dropout' (no qualifications) in the late 1990s were higher in Scotland than in Sweden, Ireland or the Netherlands[5]. If lower level leaving (no upper secondary qualifications) is considered, cross-national differences persist but the gap in exit rates between Scotland and the Netherlands/Ireland is somewhat reduced in magnitude (McCoy, 2000a). Lower level leaving remains much less prevalent in Sweden than in the other countries. Achieving an upper secondary qualification is highest in Sweden and Ireland and lowest in Scotland. It should be noted that these patterns refer to initial school-based education and do not incorporate other routes to upper secondary qualifications (such as apprenticeships or further education courses). The focus on school-based educational attainment has different implications for different countries; in Scotland, for example, many young people obtain upper secondary qualifications in post-school further education colleges (see Martin and Raffe, 1998). Cross-national differences in educational attainment are not static over time, however (Müller and Wolbers, 1999). Among the SLS countries on which data are available, Ireland and Scotland have both experienced a substantial growth over the 1980s and 1990s in the proportions staying in school to upper secondary level. In contrast, educational attainment levels in the Netherlands have remained relatively static, albeit over a shorter time-period (1989 to 1997) (McCoy, 2000b; Smyth, 2000b).

Young people in the countries studied differ not only in their level of education but also in the type of education they receive. Differentiation between 'academic' and 'vocational' tracks is clear-cut within the Dutch and French contexts. In Sweden, vocational specialisations at upper secondary level were introduced in 1970 with reforms in the 1990s resulting in a reduction in the number of vocational programmes. In the Irish and Scottish cases, however, no such formal tracking exists within the general secondary school system, although students can differ markedly in the subjects they take. Furthermore, the Irish system has seen an increasing incorporation of vocational education (most commonly, Post-Leaving Certificate courses) into the upper secondary level. For our purposes, this distinction between the courses taken in Ireland and Scotland was seen as 'informal' tracking and the use of this concept allowed us to explore whether this 'informal' tracking operates in a similar fashion to more formally differentiated tracking. Given the institutional differences in the role of vocational education, it is hardly surprising that those taking vocational tracks represent a larger group in the Netherlands, Sweden and France (Iannelli and Raffe, 2000). Participation in vocational tracks has remained fairly stable in the Netherlands over the period 1989 to 1997. However, there has been a significant increase in the proportion of young Irish people taking vocational courses, reflecting the introduction and expansion of Post-Leaving Certificate provision over the period in question[6] (Smyth, 2000b).

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[5] Rates of drop-out were also high in the French pattern. However, this pattern should be interpreted with some caution due to the exclusion of general Baccalauréat candidates from the survey sample. The French pattern alters markedly when this is taken into account (see Martin and Raffe, 1998).

Within the countries considered, educational outcomes vary by gender, ethnicity and socio-economic background; this variation is considered in section 3.6.4 below.

3.6.2 Education and the labour market

One of the central concerns of the CATEWE project has been to examine the relationship between education and transition outcomes across a range of institutional and labour market contexts. A number of measures of labour market outcomes, such as the EGP social class schema, had previously been developed to examine stratification and mobility processes among the adult population. However, such measures caused difficulties when applied to our particular samples, leading to a high concentration of school-leavers in a small number of social class categories. Therefore, several dimensions of labour market outcomes were derived, including full/part-time status, the nature of the employment contract, social class, occupational status, occupational segment, industrial sector, industrial segment and earnings. The countries vary markedly along these dimensions with quite different industrial, occupational and earnings structures. A consideration of the factors underlying these cross-national differences lies outside the parameters of our study. Instead, analyses of the integrated SLS datasets have focused on exploring the way in which educational outcomes help to shape (variation in) young people's experiences of early transition processes.

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[6] It is more difficult to examine trends over time in Scotland since the availability of data on the take-up of vocational modules varies over time.

Figure 3.10: A summary of the relationship between education and transition outcomes

Transition 'outcome'	*Educational outcome*			
	Educational level	Educational type (vocational track)	Grades	School variation (controlling for composition)
Unemployment	-	n.s. (except Ireland -; Scotland + at upper secondary only)	- (Ireland, Sweden, Scotland)	Significant (Ireland, Netherlands)
Further education	+	-	+	Significant (Ireland, Scotland, Netherlands)
Apprenticeship	- (France[7], Netherlands)	- (France, Netherlands)		Significant (Ireland, Netherlands)
State training scheme	- (Ireland, Scotland) + (Netherlands, Sweden) n.s. (France)	n.s.		Not significant (Ireland, Netherlands, Scotland)
Occupational status	+	-		
Manual employment	-	+		
Secondary sector job	-	-		
Part-time job	- (except Scotland)	- (Ireland, Netherlands)		
Earnings	+ (except Sweden)	+ (Netherlands, France)		

Notes: + statistically significant positive relationship
- statistically significant negative relationship
n.s. no significant relationship
shaded area - relationship not considered in the working papers

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[7] It should be noted that in France young people can either transfer to apprenticeship programmes within their initial education (often at fairly early ages) or return to such programmes after leaving school. This finding relates to post-school participation.

The presence in the integrated databases of information on distinct dimensions of education allowed us to explore the relative importance of particular educational outcomes in different national contexts. Analyses centred on four of these dimensions: differentiation in terms of educational level (stage left school or a combination of stage and qualifications received), between academic and vocational tracks, within stages in terms of examination grades, and between schools. The relationships between these different dimensions of educational background and a number of transition 'outcomes' are summarised in Figure 3.10.

It was hypothesised that educational outcomes would have a significant influence on transition processes among young people in all of the study countries, due to the standardised nature of the qualifications systems considered. However, it was expected that in more 'general' systems (such as Ireland and Scotland) educational level and grades received would assume a more important role in shaping transition outcomes while type of education (whether academic or vocational) would be more important in track-differentiated systems like the Netherlands (Hannan et al., 1999).

Educational level

The stage at which young people left school along with the qualifications they achieved were found to have significant influences on transition outcomes in all of the countries considered. Less qualified leavers are more likely to be unemployed than those with higher qualification levels (McCoy, 2000a) and tend to have longer spells of unemployment (Grelet et al., 2000a). Data from Ireland and France indicate that those without qualifications continue to be at a disadvantage in access to employment, even five years after entering the labour market (Grelet et al., 2000b). Less qualified leavers are also less likely to secure access to further education than those with upper secondary qualifications (Iannelli and Raffe, 2000; Smyth, 2000b). In addition, the type and quality of job are associated with initial level of education; those with upper secondary qualifications have access to better quality jobs while the least qualified are more likely to have part-time jobs and receive low wages (Grelet et al., 2000a; McCoy, 2000a). Lower level leavers tend to be over-represented in manual employment and under-represented in the routine non-manual or professional classes. They are more likely to be found in secondary sector employment within the manufacturing or construction sectors and are less likely to secure employment in the finance, public administration or professional service sectors (McCoy, 2000a).

While there are definite similarities across countries in the position of less qualified young people, their relative disadvantage tends to differ across countries and in terms of the labour market outcome considered. Unemployment risks are more strongly differentiated by initial educational level in Scotland than in Ireland, Sweden or the Netherlands (McCoy, 2000a). Within France, unemployment risks continue to be differentiated by educational level over the first five years in the labour market (Grelet et al., 2000b). The distribution of unemployment after the initial period of labour market entry also varies cross-nationally; in the Irish context, unemployment is concentrated within a small group who experience longer term unemployment while in the French context, unemployment is experienced by a broader group but interspersed with periods of short-term employment and training programmes (Grelet et al., 2000b). In terms of occupational allocation, access to professional employment is more strongly differentiated by education in Ireland and Scotland than in the the Netherlands or France. Furthermore, the relative disadvantage of lower level leavers in entry to secondary sector jobs is strongest in the Netherlands (McCoy, 2000a).

There has been much debate about the growth of overqualification in the youth labour market. While such studies usually address labour market entrants from both secondary and tertiary levels (see, for example, Hannan et al., 1998), it might be expected that increasing educational levels coupled with growing or volatile unemployment rates would have some implications for changes in the returns to education among secondary leavers. No consistent picture of changes in educational returns over time emerges; however, there are tentative suggestions of declining returns in some countries and for certain labour market outcomes. Both the Netherlands and Scotland have experienced a decline in the gap between the most and the least qualified in their relative unemployment risks over time (McCoy, 2000b) with upper secondary leaving providing diminishing protection against unemployment in Scotland (Smyth, 2000b). There is also some evidence of declining differentials between educational levels in occupational status in the Netherlands and in secondary sector employment in Scotland and Ireland (McCoy, 2000b).

Type of education

The type of education received (whether academic or vocational) is considered in a number of analyses. It was hypothesised that the existence of formal track differentiation would mean that type of education would have the strongest effects in the Dutch, French and, to a lesser extent, Swedish systems. However, it was also recognised that 'informal' tracking may play a role in shaping transition outcomes in Ireland and Scotland. Differentiation in the tracks young people take through the secondary school system is, on average, highly predictive of their trajectories on leaving school. Those who take academic courses are much more likely to enter further education than those who have taken vocational courses. This difference is more marked in Netherlands and, perhaps surprisingly, Ireland than in Scotland[8] (Iannelli and Raffe, 2000). Thus, in the Irish and Dutch cases, school-based vocational courses provide occupationally-specific skills and therefore act as an alternative to acquiring such skills through further education. Analyses of the LFS data indicate that vocational education tends to be associated with a lower unemployment risk (see above). However, this pattern was not apparent in analyses of the school leavers' survey data, except in Ireland where young people who have taken vocational courses have lower unemployment rates than other groups (Iannelli and Raffe, 2000; McCoy, 2000a). It is likely that the differences between the two data sources can be accounted for by differences in the nature of the samples (apprentices were an 'outcome' for SLS but 'leavers' for LFS purposes), in the definition of vocational education (with a broader definition adopted in the SLS case) and the fact that unemployment rates in the highly track-differentiated Dutch case were extremely low at the time-point considered.

The type of education received was also found to have consequences for the nature of employment achieved. Having taken a vocational track increases the likelihood of entering manual employment, particularly skilled manual jobs, and appears to provide some protection against entry to secondary sector jobs in France, Ireland, the Netherlands, Scotland and Sweden (McCoy, 2000a). Conversely, those who have taken a vocational track are much less likely than academic leavers to enter professional employment or to find work in the distribution, finance or public administration sectors (McCoy, 2000a). It was hypothesised that acquiring occupationally-specific skills through school-based vocational education would also have a return in terms of pay levels. This hypothesis was confirmed with vocational leavers found to be at an earnings advantage in the more track-differentiated systems of the Netherlands and France (McCoy, 2000a).

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[8] Unfortunately, France could not be included in these analyses. As general Baccalaureat leavers were not included in the sample, a full comparison of academic and vocational tracks at the upper secondary level could not be undertaken.

The distinction between vocational and academic tracks appears to be an important one in shaping young people's early labour market experiences. In many ways, informal tracking in the Irish context appears to operate in a somewhat similar fashion to more formal tracking in the Netherlands and France. This pattern should be interpreted with some caution, however, since the effect primarily relates to participation in Post-Leaving Certificate courses which, in many ways, are more advanced in content as well as more occupationally specific than regular upper secondary courses (see Iannelli and Raffe, 2000). It is also important to go beyond a simple academic/vocational dichotomy to examine the type of vocational courses taken by young people. One such approach is to examine the gender composition of different vocational tracks[9] (see Smyth, 2000a; Smyth, 2000b). Many of the consequences of vocational education relate primarily to participation in the type of tracks usually dominated by young men, which increases the likelihood of entering skilled manual employment in the manufacturing or construction sectors. However, participants in mixed or female-dominated tracks are more likely to work in personal services or other non-manual employment (Smyth, 2000a; 2000b). In this way, educational segregation plays a role in reproducing gender segregation within the labour market, although segregation is still apparent among young men and women who take the same kinds of vocational courses (see section 3.6.4 below).

Examination grades

The third dimension considered in analyses of the SLS databases related to differentiation within stages through examination grades. It was hypothesised that grades would have a more significant effect on transition outcomes in more general education systems than in more track-differentiated systems. This hypothesis was confirmed by the analyses. Among upper secondary leavers, grades are associated with further education entry in Scotland, Ireland and Sweden. Interestingly, grades are also associated with further education entry in the Netherlands. The latter pattern is likely to relate to some form of unmeasured heterogeneity among academic leavers (e.g. greater interest in further education among higher-performing students) since access to third-level education is not usually based on a numerus clausus system as it is in the Irish case. Grades also appear to be used by employers in making recruitment decisions since higher-performing students have reduced unemployment risks in

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[9] More research is needed on the relationship between field of education and the nature of the transition process. Analysing the gender mix of vocational tracks is a way of assessing the relationship between educational and occupational segregation. However, it would also be useful to know if certain types of course content (e.g.

Ireland, Sweden and Scotland[10] (Iannelli and Raffe, 2000; Iannelli, 2000). As might be expected, grades are not significantly associated with unemployment chances (at least among upper secondary academic leavers) in the Netherlands where type and level of education play a more important role (Iannelli and Raffe, 2000).

School differences

The role of school factors in shaping the transition process has been neglected in transitions research, even though school differences in educational outcomes have been long recognised. Iannelli (2000) examined school differences in principal activity one to one and a half years after leaving the school system in Ireland, Scotland and the Netherlands. In particular, significant school differences were found in relation to access to further education and employment. The basis for school-level differences was found to differ across countries, with curriculum type acting as the main source of variation in the Netherlands while exam grades and social mix of the school were found to play a role in the Irish and Scottish contexts[11].

3.6.3 Post-school training

The discussion in section 3.6.2 has focused on young people's transitions into further education and (un)employment. However, analyses of the SLS databases have also yielded very rich information on young people's experiences of training after leaving school. This section considers two types of post-school training: apprenticeship and participation in youth programmes/schemes. The five countries considered differ in their prevalence of these forms of training, in the way participation in these forms of training has evolved over time and in the way they relate to the initial education system.

Apprenticeship

Analyses of the Labour Force Survey have tended to treat apprentices as part of the initial education system (Müller et al., 1999), although other analyses have explicitly focused on the nature of this 'double status' (Welters and Wolbers, 1999). Due to the nature of the sample

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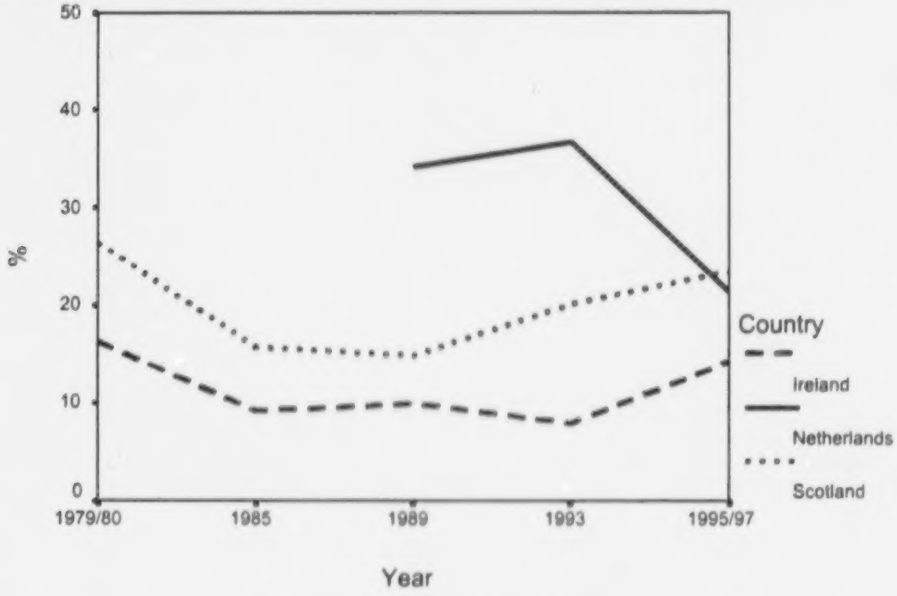
carpentry) lead to different transition outcomes in different countries.

[10] Information on grades is not collected in the French survey precisely because it is not seen as a significant factor in access to employment.

[11] Between-school variation may also reflect differences in local labour market conditions but this could not be examined within the present study.

design of national transition surveys[12], apprenticeships are treated as transition 'outcomes' for the purposes of analysis. The nature of the apprenticeship system differs across the four countries studied[13] both in its structure and in participation levels. Among all school-leavers, apprenticeship levels are highest in France[14], followed by Scotland and the Netherlands, and lowest in Ireland (Hartkamp and Rutjes, 2000a). Participation levels are somewhat more variable cross-nationally when only labour market entrants are considered. In addition, longer term trends in apprenticeship participation differ markedly across countries. In Ireland and Scotland, male apprenticeship rates contracted in line with declining employment during the 1980s and early 1990s, only recovering in the mid/later 1990s, while Dutch rates declined substantially during the mid-1990s (see Figure 3.11). Across all four countries, participation in apprenticeships is highly gendered, with significantly higher rates evident among young men (see section 3.6.4 below).

Figure 3.11: Proportion of apprentices among labour market entrants



Source: Hartkamp and Rutjes (2000b)

Across the four countries, the apprenticeship system plays a distinctive role in relation to the initial education system and to the labour market. Apprenticeships form an alternative to school-based vocational education as a means of acquiring occupationally-specific skills in France and the Netherlands (Hartkamp and Rutjes, 2000a); those who have taken upper secondary vocational tracks are much less likely to enter apprenticeships in these countries (Iannelli and Raffe, 2000; Smyth, 2000a). In addition, apprentices in these systems tend to have lower educational attainment levels than those in employment. In contrast, in Ireland and Scotland apprenticeship operates as a type of post-school vocational training and apprentices tend to resemble the employed in their educational profile (Hartkamp and Rutjes, 2000a). The educational profile of apprentices has changed considerably over time, however. Over time, the relative advantage of upper secondary leavers in securing access to apprenticeships (compared with becoming unemployed) has declined over time. The reverse is true in Ireland where the relative representation of upper secondary leavers among apprentices increases over time (Smyth, 2000b). There are significant differences across countries and over time in the occupational positions of apprentices, with skilled manual work dominating apprenticeships to a particularly marked degree in Ireland. Apprentices enter a broader range of occupations in the Netherlands and France. In Scotland, the occupational range of apprenticeship has broadened somewhat over time but remains narrower than the range in the Netherlands and France (Hartkamp and Rutjes 2000a; 2000b).

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[12] The exception to this is France where there are two groups of apprentices: one part of the initial education system, the other those who re-enter apprenticeships after a period outside the educational system.

[13] For the time-period to which data relate, no formal apprenticeship system existed in Sweden.

[14] The French pattern may, at least in part, reflect the nature of the sample since general Baccalaureat leavers are not included.

Youth programmes/schemes

As with apprenticeship, the prevalence of youth programmes varies cross-nationally and over time. In the late 1990s, those on youth programmes made up a higher proportion of school-leavers in Scotland, France and Sweden than in Ireland or the Netherlands (Schröder, 2000). In Ireland, Scotland and Sweden, youth programmes emerged as a response to increasing unemployment among young people in the 1970s and 1980s. However, overall levels of provision in Scotland significantly exceeded those in Ireland to the point where many of the previously traditional employment opportunities for school leavers were replaced with youth programme places, a pattern that also became evident in the French situation. In the Netherlands, schemes were not introduced until later than in the other countries and overall levels of participation among young people in schemes have remained low.

It was hypothesised that the nature of labour market regulation, in combination with the prevalence of linkages from the education system to the labour market, would affect both the level and nature of youth programme provision. Thus, levels of provision would be higher where strictly regulated labour markets are combined with weak linkages from the education system to the labour market. The hypothesised relationship between regulatory frameworks, the education system and youth programme provision was only partially confirmed by the data (Schröder, 2000). Participants did, indeed, form a high proportion of 'at risk' youth (the unemployed plus those on programmes) in Sweden and France, two of the most regulated labour markets; however, participation levels are also high in Scotland where labour markets are more 'flexible'. This pattern may be explained by the emergence of youth programmes as another form of post-school vocational training in the Scottish context.

In the more regulated systems of France, Sweden and the Netherlands, the role of programmes appears to be to provide school-leavers with work experience while schemes play a role in providing general or specific training in the other countries considered. The educational profile of programme participants varies across countries. There is a negative selection among those 'at risk' in Scotland and Ireland, that is, programmes tend to be targeted on less qualified young people. In contrast, selection is positive in the Netherlands, with higher participation among upper secondary academic leavers[15], and Sweden, with higher participation among all upper secondary leavers. In France, participation is not significantly related to prior education (Schröder, 2000).

3.6.4 The social structuration of transition processes

A number of research studies have indicated that transition processes have become 'individualised' over time with patterns becoming more differentiated in terms of the kinds of pathways taken by young people and less differentiated in terms of structural characteristics, such as gender and social class (see, for example, Roberts et al., 1994.). The potential for continuing differentiation between groups of young people was addressed by SLS papers in relation to three dimensions: gender, social class and ethnicity/national origin. The extent to which these issues could be explored varied across countries as not all national transition surveys contained information on these dimensions. However, analyses do highlight the importance of considering these sources of potential differentiation in transition processes.

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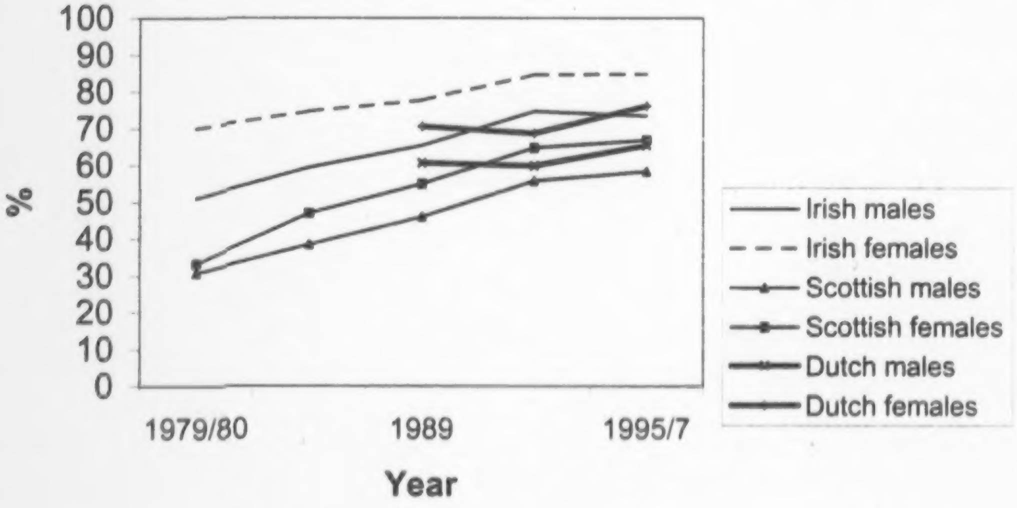
[15] This may, in part, reflect an age effect since age is used as a criterion for accessing many youth programmes in the Netherlands.

Gender

Educational and transition outcomes differ by gender in all five countries but the nature of these differences varies cross-nationally. Currently, young women are more likely to attain upper secondary qualifications than young men in all five of the countries studied. Furthermore, within the same examination level, they tend to outperform their male counterparts, with the exception of the Dutch situation (Smyth, 2000a). Young men are more likely to take vocational tracks than young women in all countries, except Scotland. However, the gender differences are somewhat reduced when only upper secondary leavers are considered. When a longer term perspective is taken, Ireland, Scotland and the Netherlands exhibit quite different trends in gender differentiation in educational attainment (see Figure 3.12). Scotland shows a widening gender gap (in favour of females) in educational attainment, Ireland shows a slight narrowing of the gender gap (with males catching up somewhat) while the Netherlands shows relative stability in the pattern of gender differences, albeit over a shorter time period (Smyth, 2000b).

Figure 3.12: Gender differences in upper secondary completion over time



Source: Smyth (2000b)

It might be expected that higher educational attainment among young women would translate into greater labour market advantage. Transition outcomes are, indeed, found to differ by gender but differently across countries. Among labour market entrants, young women are more likely to enter employment (relative to unemployment) than their male counterparts, even controlling for their higher educational levels; this pattern has been remarkably consistent over time (Smyth, 2000b). Across all countries, young women are much less likely to enter apprenticeships than young men, with even more marked gender differences apparent in the Irish context; this pattern would appear to relate to cross-national differences in the types of sectors which tend to employ apprentices (Smyth, 2000a; Hartkamp and Rutjes, 2000a). Contrary to some interpretations of the individualisation hypothesis, there is no evidence of a net reduction in gender differences in transition outcomes over time (Smyth, 2000b).

Higher educational levels among young women do not consistently translate into labour market advantage. Firstly, young women are found to be more highly concentrated in part-time work than their male counterparts and this concentration has increased over time[16] (Smyth, 2000b). Secondly, in Ireland, the Netherlands, France and Sweden, young women receive lower hourly earnings than young men, all else being equal. This pattern is not attributable to differences in occupational status or training situation (Smyth, 2000a).

Across all countries there is marked segregation in occupational and industrial allocation by gender. It was hypothesised that educational segregation into vocational tracks would result in higher levels of labour market segregation by gender in the Netherlands than in the other countries. In terms of industrial and occupational distribution, this is tentatively confirmed. However, industrial and occupational outcomes differ by gender even among those who have taken similar vocational tracks, indicating that labour market segregation is at best only partially mediated by the distribution of young men and women across different vocational tracks (Smyth, 2000a; 2000b). It is also worth noting that educational qualifications do not always have the same returns for males and females. In particular, taking a vocational track appears to have quite different influences on early labour market outcomes for males and females (Smyth, 2000a; 2000b). Taking a female-dominated track, for example, is associated with higher returns in terms of occupational status for males than for females.

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[16] The extent to which this pattern reflects constraint or choice cannot be systematically explored using the SLS datasets. However, separate analyses indicate that those in part-time jobs in Ireland and the Netherlands are much more likely than their full-time counterparts to be actively looking for another job and this pattern is evident for both males and females.

Social class

The potential impact of family background factors on transition processes was considered in relation to three countries: Ireland, Scotland and Sweden[17]. In Ireland, Scotland and Sweden, those from professional or other white-collar backgrounds are more likely to attain upper secondary qualifications, especially academic qualifications, than those from manual class backgrounds (Iannelli and Raffe, 2000). In keeping with previous research (Shavit and Blossfeld, 1993), the nature of social class differences in educational outcomes tends to be similar across countries and in neither Scotland or Ireland is there any evidence of a decline in the strength of the relationship between family background and educational attainment (Smyth, 2000b). Indeed, there is some evidence that having a parent in paid employment has become a more significant factor over time.

Given the relationship between socio-economic background and educational outcomes, family background will have an indirect effect on transition outcomes among young people. However, a direct effect is also evident. Entry to further education is sharply differentiated by social class in Ireland and Scotland (Smyth, 2000b), even controlling for examination grades (Iannelli, 2000). Social class background is also associated with employment chances and quality of jobs. Those from professional class backgrounds have higher employment chances, higher rates of entry to the finance, public administration and service sectors and higher rates of entry to professional and petty bourgeois employment than those from semi/unskilled manual backgrounds (Smyth, 2000b). The latter findings should be interpreted with some caution; further analysis is needed to explore whether these patterns hold when more detailed measures of educational attainment (such as exam grades) are taken into account.

National origin

Ethnicity/national origin has been a neglected area in comparative transitions research. However, the availability of information on national origin in the French and Swedish surveys meant that this issue could be explored using the longitudinal database (Mansuy, Schröder, 2000).

In both France and Sweden, those born abroad and those with two parents born abroad are more likely than native-born youth to leave school on completion of compulsory education.

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[17] No information was available on parental characteristics in the Netherlands while the measures of parental

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This pattern persists, even when parental education and employment are taken into account. Foreign-born youth appear to be at a greater disadvantage in education in France than in Sweden, reflecting the selectivity of the French educational system. If immigrant young people in France and Sweden do stay in school, they are less likely to take vocational routes than their native-born counterparts which is likely to have consequences for their subsequent labour market position (see above).

In both France and Sweden, those born abroad are more likely to be unemployed and less likely to be employed than native-born youth five years after leaving school. This higher unemployment risk persists even when educational and family background are taken into account. Controlling for education, young people with immigrant parents are at a higher risk of unemployment in Sweden than in France. This pattern appears to reflect the greater signalling power of education in France.

In both countries, some ethnic groups are believed to be particularly exposed to discrimination on the labour market. In France, the group experiencing greatest disadvantage are young people of North African origin while in the Swedish case North African immigration is comparatively rare with greatest disadvantage evident among those of Asian (frequently Turkish), Latin American and other African origins. In France, youth of North African origin enter the labour market with a lower educational level than other groups. In both countries, young people belonging to these 'disadvantaged' groups have higher unemployment risks than other young people. These higher unemployment risks remain when variables controlling for the individual's education and social background are taken into account.

In summary, analyses of the integrated SLS database(s) indicate that social class, gender and national origin continue to play an important role in structuring transition processes among young people and show no evidence of a decline in the significance of gender and social class as sources of variation.

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occupation used in France were not comparable with those in the other countries.

3.6.5 Summary

In summary, analyses of the integrated SLS database(s) yield significant insights into our understanding of institutional variation in transition processes among young people. Firstly, they allow us to explore the pathways taken by young people in different education, training and labour market contexts. Secondly, they highlight potential sources of heterogeneity among countries that are often considered similar in other respects. Thirdly, they indicate the importance of adopting a multidimensional approach to examining both educational and labour market outcomes. The pattern of cross-national variation can differ substantially depending on which educational or labour market outcome is considered. Fourthly, they allow us to explore differentiation among groups of young people in terms of their gender, socio-economic background and ethnicity. The analyses not only highlight substantive issues relating to institutional variation in young people's experience of the transition process but they also contribute to our understanding of the requirements for systematic comparative research. The following section highlights some of the lessons to be learned from the CATEWE experience.

3.7 NEW DATA COLLECTION

3.7.1 Developing recommendations for future data collection

The weaknesses of SLS data, discussed in the previous section, include the limits to their comparability arising from differences in the survey designs, data coverage and data definitions of the school leaver surveys. We had expected to encounter such problems, and in the CATEWE project proposal we promised to use the experience of constructing and using the SLS datasets to make proposals for 'the harmonisation of future school leavers' surveys' and for 'the design of a European-wide school leavers' survey'. The reports which presented the first analyses of LFS and SLS data included preliminary assessments of comparability and other issues arising from both data sources (Müller *et al.*, 1999; Hannan *et al.*, 2000). The project made presentations to the September 1999 workshop of the European Research Network on Transitions in Youth which discussed the strengths and weaknesses of SLS data for comparative research (Biggart and Raffe, 2000; Smyth and McCoy, 2000). On behalf of the project, the University of Edinburgh obtained funding from the Accompanying Measures programme for an International Workshop on Comparative Data on Education-to-Work Transitions, held at the OECD in Paris in June 2000 in association with Network B (on transitions) of the OECD's Educational Indicators Project. The workshop was attended by policy-makers, statisticians and researchers from eighteen countries as well as from the European Commission, EUROSTAT, CEDEFOP and the OECD itself. It received six presentations from members of the CATEWE project, as well as presentations from other European researchers, EUROSTAT, the European Commission (DG Education and Culture), representatives of national governments and statistical offices, participants in Network B, and members of the OECD associated with its OECD's Thematic Review of the Transition from Initial Education to Working Life and with the proposed Longitudinal Option to its 2003 PISA survey. A separate report on the workshop is in preparation. One of the CATEWE papers to the workshop was an initial draft of the CATEWE project's recommendations on strategies for cross-national data. This draft was substantially revised after the workshop and presented to the September 2000 workshop of the European Research Network on Transitions in Youth. After further revision it was submitted to the Commission (Raffe, 2000).

Drawing on its own experience, and the various discussions described above, the project defined a set of requirements for a data and indicator system on education-to-work transitions. Such a system should

- provide regular data, that are comparable over time, as a basis for measuring trends and for analysing the impact of changes in policy and in institutions;
- cover all stages of the transition process, including transitions within the upper stages of education and training as well those during the early years in the labour market and through intermediate or dual statuses; and it should allow for 'reverse' transitions from work to education as well as *vice versa*;
- provide longitudinal (flow) data that track individuals through all these transitions, in order to identify individual itineraries and in order to analyse the determinants of successful transitions;
- include subjective data collected before key decisions on transition are made;
- provide data on the processes of transition as well as the starting points and outcomes;
- provide data on multiple outcomes of transition, including learning outcomes as well as a variety of labour-market outcomes;

- provide data on key family and household transitions (leaving the parental home, forming a stable partnership, becoming a parent);
- include the necessary data (gender, social background, ethnicity/nationality) for the measurement of equity issues;
- cover a full cross-section of young people, so that inequalities can be measured against the full cohort, and as a basis for a system-wide perspective;
- be sensitive to national differences in the institutions and processes of transition;
- provide data that are formally comparable across countries, in the sense that populations, variables and classifications are based on the same formal definitions;
- provide data that are substantively comparable across countries: this means, among other things, that comparisons should not all be related to a single transition event which may not have the same significance in each country; and
- include information on national contexts (economic conditions, labour markets, education and training systems, government structures, etc) with which to interpret these comparisons.

When the current main data sources on transition (SLS, LFS and administrative data) are evaluated against these criteria, not surprisingly none fully satisfies all the requirements. Moreover, none can easily be adapted or modified to do so. In particular, there is limited scope for harmonising national school leaver surveys, which differ widely in design and content, and which serve distinct national purposes. The project outlined a strategy for 'partial harmonisation' of national surveys, based on a set of criteria to which they should be encouraged to converge when this does not conflict with national priorities.

The project's main proposal for future data-collection strategies is that they should be based on the complementarity of different data sources. It is not necessary for each data source individually to satisfy all the criteria listed above, but collectively they should do so. The project proposes that a new European-wide survey should be designed to fill the main gaps in existing data sources. These gaps are:

- the collection of 'equity' variables (gender, social background, ethnicity/nationality) on a consistent basis:
- data on itineraries within the education and training system;
- subjective data collected prior to key decision points; and

- 'substantive comparability' between countries: that is, comparability not based on a single transition event. The typical sequence and nature of transitions varies across countries, and no single transition event can have exactly the same significance within this sequence in different countries.

The project considered three possible designs for a cross-national survey: a transition survey (based on a single transition such as leaving secondary school), a prospective age cohort survey and a retrospective age cohort survey. A cross-national transition survey – with a design similar to the school leavers' surveys in the CATEWE project – could not easily fill the gaps listed above. Transition surveys tend not to collect details of transitions within the education system; they can only collect subjective data on reasons for transitions retrospectively (and therefore inadequately); and because they are based on a single transition they afford limited substantive comparability. The CATEWE experience illustrated this problem: the definition of 'leaving secondary school' embodied in the surveys varied across the five SLS countries. A cross-national transition survey would not therefore fill the gaps in existing data sources. The project recommended a prospective age cohort survey, which might be replaced by, or amalgamated with, the proposed longitudinal survey to follow up the PISA survey of 15 year-olds in 2003. Our recommendations are discussed in chapter 4 below.

3.7.2 Support for new surveys

A further methodological aim of the project was to provide scientific support for new national transition surveys. Two such surveys were associated with the project, with the research teams responsible being engaged as sub-contractors.

In Belgium, SONAR – an interdisciplinary research-team with links to four Flemish universities and formed on the initiative of the Policy Co-ordination Unit of the Department of Education of the Flemish Community – surveyed a representative sample of 3,000 Flemish 23 year olds (born in 1976), sampled from the national register. Face-to-face interviews took place between October 1999 and February 2000. The data collected included details of young people's social background, secondary and tertiary education and experiences in the labour market. A monthly calendar recorded jobs and unemployment spells from the end of compulsory education at 18 years. It is planned to survey a fresh cohort of 23 year olds in 2001 and to contact the 1976 cohort again in 2002 (at age 26).

Association with CATEWE was instrumental in developing the SONAR survey in several ways.

- Even if it was clear from the start that the institutional peculiarities of the Flemish educational system, most notably the fact that compulsory schooling age is set at 18, prevented a simple replication of a framework as used in one of the existing national surveys, the experience of the CATEWE components allowed SONAR to decide about the format the Flemish survey on the basis of detailed information and comparison with regard to sampling population, interviewing methods, types of questionnaires or lists of variables.

- Participating in the meetings of the CATEWE team was important in this respect. Detailed discussions about the construction of internationally comparative databases on the basis of existing surveys gave SONAR much insight in the way questions could (or ought) to be phrased in order to make variable construction easier (and to allow for eventual international comparability). Early in the process of setting up the SONAR framework, members of the CATEWE team were invited to a workshop in Brussels to address researchers, representatives of the Flemish Department of Education and representatives of the funding agencies to share their experience and to advise on possible ways to set up a school-leaver or age-cohort survey.

- Its association with CATEWE also allowed SONAR to link to the wider European Research Network on Transitions in Youth. SONAR hosted the 7th Annual Workshop of TIY (Antwerp, 7-10 September 2000). First results of the Flemish survey were presented at the final day of this workshop with members of the CATEWE project acting as chair and discussant.

- Given the timing of the SONAR survey and the differences in design, the Flemish survey being neither a one-year leaver survey nor a five-year follow up, it has not yet been possible to construct a Flemish part to add to the CATEWE database. However, once the integration of the data-sets, generated on the basis of both parts of the interview (calendar and questionnaire), is completed, SONAR plans to construct a database based as closely as possible on the CATEWE variable lists.

In Portugal, the CATEWE project was associated with the Graduates' Integration Pathways Observation System (ODES). This project was run jointly by four agencies: two within the Ministry of Labour and Solidarity (INOFOR – Institute for Innovation in Training; DETEFP – Department of Statistics for Labour, Employment and Vocational Training), and two within the Ministry of Education (DGESup – General Directorate of Higher Education; DAPP – Department of Forecasting and Planning).

In the initial phase of the project, a telephone survey was carried out among graduates who had completed training courses at Polytechnics and Universities (both state and private) in 1993/94, in one of the following six areas: Economics, Management, Engineering, Accountancy, Pre-School and Primary School Teaching.

In Portugal, Higher Education institutions inform the Ministry of Education (General Directorate of Higher Education) how many students complete their respective courses each year. Having completed their training course in the 1993/94 academic year was one of the criteria for graduates to be included in the survey. According to official figures, a total of 10,040 students graduated in 1993/94. After updating telephone numbers and addresses, 7,680 graduates were found to be contactable. Of these 7,680, 5,288 actually took part in the survey, representing 53 per cent of those who graduated in 1993/94.

The survey was undertaken on the basis of an analytical model encompassing what were regarded as four key research areas in a study of the socio-vocational integration pathways of young people in general, and of graduates in particular: their social and educational background, professional trajectory, and their views on, and expectations for, their educational and vocational pathways.

The INOFOR team attended nearly all the CATEWE project's meetings and hosted one of them in Lisbon in November 1998. Timing differences meant that the results of the Graduates Survey could not be incorporated in the School Leavers' Survey group's comparative database. On balance, however, participation within the CATEWE project was positive, in two ways particularly:

1. The debate that ensued at the meetings resulted in both a better understanding of each country's education system and employment market specificities, and a sharing of information about difficulties encountered in building variables that, while suitable for international comparison, would still reflect the particularities of the different national realities.

2. Taking part in the CATEWE project also led to interaction with the European Research Network on Transitions in Youth, the next meeting of which will be hosted by INOFOR in Lisbon.

This chapter has outlined the main results of the CATEWE project. The implications of these findings for policy and future research are discussed in the following chapter.

CHAPTER 4: CONCLUSIONS AND POLICY RECOMMENDATIONS

4.1 INTRODUCTION

This chapter outlines the main conclusions and related policy recommendations arising from the CATEWE project. The project set out to address the deficit in existing transitions research by developing a more adequate framework for examining the relationship between education, training and labour market contexts in different national contexts, and applying this framework to empirical studies of transition processes in a range of European countries. The main research question underlying the project can be seen as: "How do national systems shape transition processes and outcomes?". In particular, we sought to identify:

1. The nature of variation (and similarity) in education and training systems across Europe;
2. The extent of inequalities in educational outcomes by gender, social class and ethnicity, and the way in which these differences may vary across systems;
3. The nature of transition processes, and their variation across national systems;
4. The relationship between (different kinds of) educational outcomes and transition processes and outcomes; and,
5. The extent of inequalities in transition outcomes (by gender, social class and ethnicity), and the way in which these differences may vary across systems.

The remainder of this chapter summarises our conclusions in relation to these issues and identifies the ways in which the project has contributed to our understanding of transition processes across Europe.

Section 4.2 reviews the nature of transition processes and outcomes, highlighting the distinctive features of the transition from education to work in Europe at the turn of the millennium, the way in which transitions are changing and the way in which they vary across countries. In section 4.3 we summarise our conclusions about the differences in national transition systems which explain this variation. In section 4.4 we explore more specific issues: the role of education in the transition process, the relative importance of general and vocational education, and the nature of inequalities among young people. Finally, in section 4.5 we summarise our conclusions and recommendations on data issues.

4.2 CHANGING TRANSITION PROCESSES AND OUTCOMES

Throughout the European Union, participation and attainment in education have been expanding. By the late 1990s, the proportion of 25-29 year olds in the EU with no qualifications beyond lower-secondary education stood at 30 per cent, and the proportion with tertiary qualifications stood at more than 20 per cent. These proportions varied across countries: for example, the UK and southern European countries have more low-qualified young people than elsewhere. However, at secondary level country differences have narrowed over time, as countries like Ireland and Spain with formerly low levels of upper-secondary attainment caught up with the others. At tertiary level, however, there is less evidence of convergence. In some countries (notably Austria and Italy), tertiary attainment has tended to lag behind the rest. In general, the tertiary sector has tended to expand faster in countries with a less developed vocational education at upper-secondary level.

As a result of these trends, young people now enter the full-time labour market with higher qualification levels and at a later age than previously. However, there are still wide differences within and between countries in the age at which people enter the labour market, even among young people with the same educational level.

In some European countries only a minority of young people experience relatively stable employment during their first few years in the labour market. For many young people these years are characterised by unemployment or unstable employment, with a series of moves between different statuses such as education, unemployment, inactivity, youth programmes, military service and part-time, temporary or permanent jobs, or combinations of these. However, typical transition patterns vary across countries.

In most countries unemployment rates are much higher among young people entering the labour market than among older workers. Unemployment risks decline with the length of time in the labour market. However, young people who remain unemployed for a long period face reduced chances of obtaining a job. These patterns vary across countries as does the overall youth unemployment rate. However, comparisons are affected by the way in which youth unemployment is measured. In countries with high participation in education, youth unemployment may be high when expressed as a percentage of young people in the labour force, but relatively low as a proportion of the total age group. On the former definition, the EU unemployment rate for 1995-97 was around 25 per cent for 16-21 year olds, declining with age to below 10 per cent at age 33. As a percentage of the age group, unemployment rose to around 14 per cent at age 21 and then declined more slowly, falling below 10 per cent at age 28.

A growing proportion of young people pass through intermediate or mixed statuses that are neither wholly in education nor wholly in the labour market. These include training or employment programmes for young people. Most of these programmes were introduced as a response to high youth unemployment. In some countries they retain this function but in others they have been, to varying degrees, assimilated into the initial training system. They also vary widely in scale and in content, some offering work experience only and others offering structured training.

Other intermediate statuses include 'dual' statuses which combine education and work. Across the EU in the mid 1990s, 2 per cent of the whole employed labour force (of all ages) were students in initial education who also had jobs; a further 2 per cent were apprentices; and 6 per cent were workers attending continuing education. The first two of these categories were heavily concentrated among young people; the third category (studying workers) was more evenly distributed across age groups with the highest representation among people in their 20s. Apprenticeship was most common in Germany, the UK, Denmark and Austria. The number of working students, and the number of studying workers, tended to be much higher in northern countries (Denmark, Finland, the Netherlands, the UK and Sweden) than elsewhere. All three dual status categories tend to be less common in southern European countries.

A growing proportion of young people spend time in 'non-standard' forms of employment, such as part-time or temporary jobs. Once again, the extent of these varies very widely across countries. In some countries, a large proportion of young people take one or more temporary jobs before they find permanent employment; in other countries, temporary jobs are a relatively insignificant feature of the youth labour market. There is nevertheless a general trend for young people to move from less secure to more secure jobs as they grow older. They also tend to move from jobs with lower to higher occupational status, although the extent and nature of occupational mobility also varies across countries.

It is arbitrary to identify any one status as the 'final' outcome of transition. But when – and if – young people find full-time and relatively stable employment, they are more likely than adults to work in clerical or sales occupations or in certain service-sector industries such as hotels and restaurants.

Finally, these processes and outcomes of transition vary for males and females, for young people from different social backgrounds, and for young people with different levels and types of attainment in initial education. We discuss these differences further in section 4.4 below. While variations by gender, background and level are found everywhere, their precise form may vary between countries.

These changing characteristics of the transition from education to work have implications for guidance and information services, which become more important with the longer duration and greater complexity of the transition process. They also have clear implications for policy-making structures. If the various 'statuses' involved in the transition are the responsibility of different ministries or agencies at national level (such as Education, Training, Employment, Social Security), co-ordination among them is essential.

4.3 CLASSIFYING TRANSITION SYSTEMS

4.3.1 The continuum of transition systems

In our brief summary of transition processes and outcomes we have drawn attention to the fact that they vary across countries. What are the main types or dimensions of national transition systems which explain this variation?

In developing our initial conceptual framework (see Chapter 3), we identified several dimensions of variation in national transition systems, and suggested that many of these were correlated and could be represented as a single continuum. At one end of this continuum are countries such as Germany with strong occupational labour markets (OLMs), standardised and track-differentiated education systems, and strong links between education and the labour market (often through apprenticeship systems). At the other end of the continuum are countries dominated by internal labour markets (ILMs), with less standardised and less differentiated education systems, weaker links between education and the labour market and little formal work-based training. Examples of the latter type of country include the United States and, within Europe, Ireland and Scotland, except that (like other EU countries) their education systems are more standardised and linkages between education and the labour market are characterised by relatively strong market signals.

For practical reasons, many of the project analyses either focused on a single dimension of variation in transition systems rather than on the continuum as a whole, or they used categorical rather than continuous measures to classify systems. Nevertheless, the analyses confirm the value of the conceptual approach adopted by the CATEWE team. The dimensions of variation in transition systems are indeed found to be correlated, and countries' transition systems tend to be distributed along a continuum such as that described above. Moreover, this continuum helps to explain national variation in transition processes and outcomes. For example, in countries at the former end of the continuum, characterised by OLMs and strong linkages between education and the labour market:

- youth unemployment rates tend to be lower, and the ratio of youth to adult unemployment rates is lower;
- more young people enter the labour market with vocational upper-secondary education, and somewhat fewer enter with tertiary level qualifications;
- the process of entry to the labour market tends to be smoother; and,
- initial employment is less likely to be in secondary-sector jobs, and employment tends to be more stable.

Most of these differences are broadly consistent with the theoretical ideas underlying our hypothesised continuum. However, the very fact that the component dimensions of this continuum are correlated makes it difficult to distinguish empirically among them, and among the different theories associated with them, on the basis of comparisons of a small number of European countries. The 'intensive' approach to comparisons (see chapter 3) deals with the problem raised by a small sample of countries by testing multiple predictions based on its theoretical starting point. However existing theories tend to focus on one dimension at a time. We need theoretical perspectives which take account of the interrrelationships of different dimensions, and in particular a theory which links the educational and labour-market dimensions of variation in transition systems.

However, while our research confirms the utility of representing transition systems in terms of the continuum described above, it also reveals the limits of the continuum as a single explanatory tool. At least four further issues need to be taken into account.

4.3.2 Other dimensions of variation in transition systems

In the first place, the research shows that other dimensions of transition systems, which vary independently of the overarching continuum, are important. These include

- the strength of labour-market regulation, which affects the extent to which new entrants are 'outsiders' in the labour market and consequently influences their employment and unemployment chances. Sometimes the influence is indirect, if strong regulation of the adult market is accompanied by a less regulated sector for young people;
- the extent to which educational achievements are differentiated 'vertically' by formal grades or levels. This may be especially important in systems where track-differentiation is weak;
- family structure, and associated with this the state institutions (such as welfare régimes) which incorporate assumptions about family obligations, and other social institutions, such as housing markets, which may underpin these assumptions. Especially in Mediterranean or southern European countries, family support appears to influence the kinds of jobs which young people looking for jobs are prepared to accept and the length of time they are prepared to wait before accepting a job;
- more generally, aspects of the supply side of the youth labour market – young people's preferences, transition norms, expectations about dependence and

independence and the age of transitions to adulthood. Our initial conceptual framework tended to assume that these aspects were constant across all countries, so that differences could be attributed to features of the demand side and of educational and labour-market institutions.

4.3.3 Country-specific features

Second, not only are there additional dimensions but national transition systems may have features which are specific to the country concerned and not easily reducible to the general dimensions of the conceptual framework.

For example, Schröder (2000) finds variations in the scale, target group and function of youth programmes across the five countries in the school leavers' survey dataset. While these variations are partly explained in terms of general dimensions of transition systems (labour-market regulation and the strength of linkages between education and the labour market), they sometimes require more specific explanations. For example, Scottish youth training programmes do not conform to Schröder's theoretical model, because they have been developed into a mass training scheme for employed as well as unemployed young people, a fact which in turn calls for a more contextualised, country-specific explanation.

In chapter 3 we described three methodological approaches to comparison. The project has used the third of these, the 'interpretive' approach, to identify such country-specific features. An example is the study by Hartkamp and Rutjes (2000) of apprenticeship in four countries. In the Netherlands and France apprenticeships are more parallel to upper-secondary education, are less selective and cover a broader range of occupations than in Scotland and (especially) Ireland. In other cases, comparisons may point to different institutional arrangements which perform the analogous function – notably, the different educational mechanisms which produce a vertical differentiation of school leavers, respectively track placement, certification, grades, institution type or school.

4.3.4 Internal differentiation within transition systems

A third limitation of the 'single continuum' model, and more generally of the use of dimensions or typologies to classify education systems, is that different parts of the same system may belong at different points on the same dimension or in different categories of the typology. For example, the extent of 'standardisation' may vary across different sectors of a system. Allmendinger's (1989) paper introducing this concept distinguished among the standardisation of primary and secondary schooling, of higher education and of vocational training respectively (although her hypotheses tended to treat standardisation as a system-wide concept). Similarly, the strength of labour-market linkages, or the extent of track differentiation, may vary across the sectors or stages of an education system.

Many researchers have dealt with this problem by focusing on a 'critical sector' of education or training which is assumed to define the system as a whole. For example, Germany or Denmark are treated as 'dual system' countries and France or Sweden as countries with school-based vocational education. Often this assumption is implicit. Iannelli and Raffe (2000) propose that vocational upper-secondary education is the 'critical sector' in this sense and explore the implications of defining a system in terms of the relationships of this sector with other parts of the education system and with the labour market. They hypothesise that these relationships may follow either of two 'logics' – one in which vocational upper-secondary education is oriented to higher education and to other parts of the education system, and one in which it is more closely linked to the labour market. They find some evidence to support their hypotheses, but given the data limitations the evidence is not conclusive.

4.3.5 Changes in transition systems

The fourth limitation of the notion of a single explanatory continuum of transition systems is that the characteristics of transition systems themselves are not fixed. For example, even a relatively focused policy change, such as the withdrawal of benefit entitlements from unemployed 16 and 17 year olds in Scotland in 1988, may have a significant effect on the process, and perhaps also the outcomes, of transition. In Ireland, new vocational programmes such as Post-Leaving Certificate (PLC) courses have had a positive impact on the employment chances of school leavers, in apparent contradiction to the representation of Ireland as an ILM country with weak linkages between education and the labour market, where we would expect vocational education to have relatively poor labour-market returns. Although our research does not reveal the reasons for these programmes' success, it is likely to be related to the provision of occupationally-specific skills within PLC courses and, perhaps, to recent radical changes in the Irish economy and labour market.

As the transition process itself changes, new dimensions of transition systems become important. For example, rising levels of educational participation and the prolongation of the transition period make the family and household structure and the support that they provide to young people in education and seeking employment more critical. Once again, closer examination of Southern European countries may provide theoretical lessons that are of wider relevance.

4.3.5 Overview

The four 'limitations' listed above constitute a challenge, not only to the empirical proposition that a single continuum of transition systems accounts for much of the cross-national variation in transition processes and outcomes, but also to the conceptual and theoretical position underlying that proposition. On the one hand, they challenge the notion of 'dimensions' of transition systems, either because each system has features that are sui generis and not reducible to a finite number of general dimensions, or because each system is itself heterogeneous and different stages or sectors may be at very different points along the same dimension. On the other hand, they challenge the notion of transition system as the fixed, independent variable of the analysis. Not only may transition systems change, but they may do so in response to changes in the 'dependent variable', in the transition process itself.

The conceptualisation of transition systems as dimensioned, stable and determining thus contrasts with a societal approach which emphasises the interaction between different parts of the process and the distinctive logic which governs each country's arrangements. Our project has been based on the assumption that both approaches are necessary for a full understanding of transitions.

4.3.6 Policy implications

The main policy implication from our analysis of transition systems is that policies for the transition from education to work must be designed in relation to the particular transition system in which they are to be introduced. Policies which are effective in one type of transition system are not necessarily effective in another. The trend in cross-national policy thinking is moving away from identifying institutions or policies which are expected to be universally effective, towards identifying the key features (or conditions) of effective transition systems. These conditions might be achieved through different policies in different transition systems. Our research endorses this trend, which is reflected (for example) in the final report of the OECD's (2000) Thematic Review on the *Transition from Initial Education to Working Life*.

The implication for policy-makers at EU level, therefore, is that uniformity of policy across the diverse transition systems of the EU is not necessarily desirable. For national policy-makers, it cannot be assumed that policies can be 'borrowed' from other national systems and prove equally effective. To the extent that policy borrowing is ever appropriate, it is most likely to be effective among countries with similar types of transition systems.

This is not to say that countries should never attempt to reform their transition systems, and here the concept of dimensionality may be a guide. Our notion of a 'single continuum' draws attention to the interrelated nature of the dimensions discussed in chapter 3, even if it also signals the need for further research and theoretical development. Some dimensions are more easily changed through policy intervention than others.

4.4 SPECIFIC ISSUES IN THE ANALYSIS OF TRANSITIONS

4.4.1 Educational level and its relationship with exclusion

The level of education attained is a crucial variable shaping individual education-to work transitions. In numerous analyses, based on both SLS and LFS databases, the project has established unequivocal evidence for the strong relationship between level of education and core transition outcomes. The higher the individual level of education, the lower the risk of unemployment, the faster initial jobs will be found, which will, in addition, be more stable and in more prestigious occupations and industries, pay a better salary, and offer better opportunities for further training, among other things. Individual investment in education and training pays off and there is little evidence of fundamental differences between European countries, despite some cross-national variation which has been discussed in chapter 3 above. In other words, those leaving the educational system at a very early stage, that is, from lower secondary education or even without properly completing compulsory education, are very likely to face considerable difficulties in the early stages of their careers. And although the project itself has focused on the effects of education in the very first years on the market, it is well-known from other research that such initial difficulties will often continue into later career stages as well (see, for example, Hammer, 1997). The disadvantages faced by those entering the market with relatively little education and training seems a robust and unequivocal finding across all European Union countries over the historical period covered by the project's data sources.

Consequently, concerns for appropriate policy measures have been widespread for a long time, both at the European level and within EU member states. In fact, there are a number of additional project findings which stress the need to maintain strong policy orientations toward the lowest qualified. First, we have produced considerable evidence for a strong macroeconomic component in transition outcomes. Labour market outcomes among those entering the labour market are heavily affected by aggregate economic conditions, much more so than is the case for more experienced workers. Least qualified market entrants are found to be the most vulnerable to cyclical swings in economic activity (see also Blanchflower and Freeman, 2000). Steady economic growth across European countries is likely to mean that transition issues, particularly youth unemployment, will be given less policy attention. However, likely future changes in macroeconomic conditions will have particular implications for young people entering the labour market and will thus raise issues for policy-makers. For this reason, it is crucial that we now take stock of alternative ways to successfully integrate young people into the labour market and begin to consider potential institutional reform to better achieve such integration.

But are qualifications and skills the answer to this? And if so, which skills? More advanced qualifications or completely different skills, better training or more specialised preparation for working life, reform of initial education and training or expansion of adult and further education systems? Of course, our project cannot claim to be able to provide definite answers to any of these questions. Still, some modest conclusions are defensible. A first and tentative result is an indication that those at the bottom end of educational qualifications are unable to benefit from expanding employment opportunities in modern(ising) sectors of the economy. If this is supported by future research, the implications are highly significant. In fact, this might be a first signal that – despite recent and current reforms updating the curriculum of compulsory education in many countries – the actual skill contents of these tracks may increasingly fall short of the needs of structurally changing labour markets and a stable working life therein (see also McIntosh and Steedman, 1999). Such trends should not be exaggerated prematurely, but if this indication substantiates itself further, then policy action to prevent early school drop-out and foster even increasing – initial and/or second chance – participation in advanced forms of education and training might well be warranted. This is not to imply that EU member states have proven inattentive to the issue in the recent past but to emphasise that providing all young people with an adequate skill basis (including literacy and numeracy) for their working lives is and remains a serious issue, which deserves special attention in the context of rapidly changing economies.

Having said this, it should probably be added that our results leave us quite confident that further educational expansion is not very likely to prove as detrimental to young people's labour market outcomes and returns to educational investments as is often assumed in current research. True, education has the quality of a positional good, so that its value on the market is partly determined by just how exclusive any particular qualification is. In addition, concerns about the incidence of over-education have been most prominent among education and labour market scholars. But according to our empirical results, the net decline, if any, in returns to education has been quite small for most educational groups, despite remarkable expansion of education, notably at the tertiary level. This is not to say that educational expansion will never result in a devaluing of certain credentials. But apparently, for most of the 1980s and 1990s, such downgrading tendencies have been offset by parallel changes in the structure of labour demand, and young people have been able to benefit from these changes to a considerable degree. Hence, these results seem more consistent with an interpretation that stresses that considerable and productive additional skills are conveyed by more advanced education, which allows individuals to benefit from employment opportunities in the expanding sectors of the labour market, or even contribute to the speed of structural changes in the economy itself. In order to generalise these findings further and to understand the nature of these empirical linkages, further study of the inter-relatedness of educational expansion and labour market changes seems to be warranted.

In general, there can thus be little doubt from our results that increased levels of education give individuals a better start into a more promising working life. If this is correct, then the main policy question becomes: why do some individuals leave the educational system with low and potentially insufficient levels of education, and how might this be remedied in the future? It cannot be claimed that we have treated this question sufficiently within the lifetime of the project, but there are some results which appear relevant to it, which should help to formulate adequate questions in future research. As these are closely linked to the role played by vocational training, they will be discussed below.

4.4.2 Vocational education and entry into working life

Large-scale systems of vocational education have long been considered and utilised as the main means of providing relevant skills to non-academically oriented young people in many countries. In fact, as far as can be told from the data, substantial proportions of those young people not entering academic-bound educational tracks participate in some form of vocational training before entering the labour market or over the initial years after leaving the school system. Given huge variation in institutional arrangements for providing vocational training, it is not surprising that the distribution of young people across various types of training varies considerably across European countries. Institutionally diverse as they are, national systems of vocational training differ according to the nature of vocational specialisation offered and the number of occupations trained for, the level of entry qualifications required, the dominance of school-based versus dual forms of training which combine formal training and work, the extent and nature of provision for work experience during training, or in the extent and nature of direct or indirect employer involvement in both training design and provision, among others. In addition, the dividing line between vocational training and active labour market policies targeted at young people is often difficult to draw. Some of the more ambitious and long-running training schemes (like those in the United Kingdom) are significant components of the training system and have long ago abandoned the primary objective of providing work experience to unemployed youth.

This cross-national variation in institutional settings provides ample opportunity to assess the effects of different types of vocational education under different contextual conditions and with respect to different aspects of transition outcomes. The main questions to be settled are: What are the effects of completing vocational training in comparison to leaving from more general educational tracks? Does vocational training represent a reasonable educational investment, at least in terms of initial employment returns to it? Or does vocational training imply a risk of diversion by trapping young people in less attractive and menial employment careers, and with less access to higher levels of education subsequently? And are the effects of vocational training (near) universal or are there peculiar institutional features of labour markets which affect the role of vocational training? And coming back to the preceding section, if vocational training does provide labour market advantages, does it seem likely that it represents a sufficiently attractive route to people who would otherwise leave the school system at relatively early stages?

The answer to these questions is first and foremost a question of the standard of comparison. From what we can tell from the project's results, vocational training does facilitate labour market entry and provides access to better employment opportunities than are available to those having left education/training systems with lower qualifications. Compared to young people entering the labour market with more academically-oriented upper secondary qualifications, vocationally qualified leavers, in general, do not achieve substantially different unemployment or employment outcomes. If anything, apprentices tend to have somewhat lower unemployment rates but also somewhat less favourable employment outcomes. In contrast, labour market outcomes for those leaving school-based vocational training and those from general tracks at upper secondary level are typically quite similar.

These results showing close similarities in labour market effects of vocational training across the set of European economies are quite remarkable in themselves. Leavers from apprenticeships or similar forms of combined work-training contracts have considerable advantages in securing relatively stable employment positions quickly. This relationship apparently holds for programmes as institutionally diverse as those run in countries such as Austria, Denmark, Germany, France, the Netherlands, or the United Kingdom. Such similarity strongly suggests that no particular macro-institutional context is necessary for apprenticeships to work[1]; apprenticeships are mainly successful because they provide a sheltered work contract with a particular employer. This design feature is sufficient to generate smoother transition patterns in different market contexts because it opens up the option of continued employment at the training company after completing the training period. It is this feature which is mainly responsible for low unemployment rates among apprentices in the early stages of labour market careers, compared with leavers from both general and vocational tracks within upper secondary education.

Context-independent effects of apprenticeships are also evident in relation to occupational outcomes: we have gained no evidence that apprentices in the more occupationalised contexts of Austria, Denmark, Germany, and the Netherlands have systematically more favourable employment outcomes than apprentices in other European economies. Comparing European countries operating apprenticeship systems, the empirical picture is one of considerable heterogeneity among countries with strong OLMs, rather than any clear-cut contrast between these countries and (for example) France, the United Kingdom or Ireland. In fact, the average apprentice in Germany is found to have the most positive occupational outcomes across European countries, while apprenticeships in the Netherlands and Austria have the least positive outcomes. What is at stake here is, of course, not the quality of the programme per se, but the range of occupations being trained for, and notably the reach of the system into the service sector, both of which are considerably larger in Germany than in the two other countries mentioned. Clearly, the nature of occupations trained for becomes closely reflected in subsequent initial employment experiences.

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[1] This does not conflict with findings that installing and maintaining apprenticeship systems is greatly influenced by the current macro-institutional context. It might well be helpful to have strong trade unions, a historical legacy of vocational training, co-ordination among employers and strong employer involvement in training policy for developing feasible apprenticeship tracks, although none of these

While the effects of vocational training discussed so far have emerged as broadly common to the set of European countries, there are two cases where we have found training effects to differ systematically between countries, and both relate to the effects of school-based vocational training rather than apprenticeship programmes. With respect to both pay levels and unemployment risks, we have found more favourable outcomes for leavers from school-based vocational training in those countries where such training occurs in the context of strong OLMs – notably in the Netherlands, but to a lesser extent also in Austria and Germany. It appears that these qualifications are more explicitly recognised by employers in more occupationalised systems. For policy purposes, this is likely to hold the implication that the full value of any expansion, introduction or change of school-based vocational training in the context of weakly occupationalised systems will only be realised after some time, presumably because employers need relatively more time to become aware of the contents of such training, as well as the reliability, adequacy and relevance of this educational output as compared to systems with already long-established practices of occupationally specific training.

Much of the foregoing discussion suggests that no single institutional panacea exists which uniquely generates successful and smooth pathways into the labour market. Indeed, with respect to many labour market outcomes studied, those for leavers from apprenticeships, school-based vocational training or upper secondary general education are often strikingly similar across European countries. This similarity leads

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institutional preconditions for the existence of such systems strongly affects the subsequent nature of its stabilising effects on labour market careers.

us to emphasise the importance of training for successful labour market entry *per se* rather than the institutional nature of training provision: the main determinant of initial career experiences is clearly the level of initial education and training, rather than the type of education. This also suggests that providing training and skills to young people is the key to avoiding transition problems. Thus, providing skills through general or vocational programmes might in fact be seen as alternative and potentially complementary, rather than as antagonistic and mutually exclusive, strategies. The benefits of adopting or further expanding either route of training should very much depend on its contribution to the final levels of training achieved by young people. Before considering the relative merits of general versus vocational education in that respect, one should, however, note one distinctive feature of apprenticeships: even though labour market outcomes among apprentices are unlikely to differ dramatically from those having left other types of upper secondary education in the longer perspective, apprentices are likely to achieve their integration into the labour force with considerably lower levels of initial unemployment as well as fewer and shorter periods of job search. The main feature of apprenticeships which is likely to bring about such favourable initial outcomes is the established relationship with a particular employer and the resulting chances of continued employment after training completion. Training tracks lacking this design feature do not necessarily imply different labour market outcomes by the age of 25, 30 or even 35, but it is likely that individuals will experience more problems in securing stable employment initially. Compared to school-based training, apprenticeships do have a certain safety net effect.

But if, in the long run, different modes of training provision achieve relatively similar labour market outcomes, then there is little to choose between institutional forms of training provision with better or worse outcomes, but rather in terms of their inherent skill formation potential. That is, initial education and training aimed at minimising transition problems would be well advised to devise a mix of general education and apprenticeship or other types of vocational training which maximises individual and cohort skill acquisition. Effectively, there are two main concerns here: training incentives and the diversion effects of vocational training. The first argument favouring the use of vocational training provision would emphasise the potentially lower thresholds to skill acquisition through vocational training, related to, for example, the more applied nature of the skills trained and the provision of more concrete pathways into the labour market. Hence, vocational training could serve as an effective means to achieve high progression rates beyond compulsory levels of education as those otherwise entering the labour market without any additional training might find a reasonably attractive training alternative. Supportive to this notion are project findings on a positive correlation between the size of a country's vocational training system and the proportion of individuals who progress beyond compulsory levels of education, as well as higher progression rates beyond compulsory education in the Netherlands as compared to other SLS countries.

Contrary to this, the diversion argument stresses the fact that vocational training might inhibit further skill formation. Indeed, even if vocational and general training provide formally equal access to further training, progression rates into post-secondary and tertiary education are typically much lower among leavers from vocational training compared to those among leavers from more general tracks. To some extent, however, this outcome will reflect the different orientations of young people when they enter these tracks: those joining vocational tracks are more likely to plan a relatively early entry to the labour market. On the other hand, young people's orientations about their subsequent career are unlikely to be completely fixed by the age of 16 or 18, and education and training undergone will considerably shape and develop these orientations. In consequence, the more practical orientation of vocational training can be assumed to contribute to narrowed perceptions of, and expectations about, individual career options, which may bring about a diversion of academic effort and potential.

In some sense, vocational training is likely to maintain a Janus-faced appeal, as both incentive and diversion effects are simultaneously apparent in our results (see also Shavit and Müller, 2000). That is, on the one hand, vocational training might contribute to increased training participation among those who would otherwise not continue into upper secondary education. On the other hand, however, young people in vocational training are less likely to further invest in education and training than those in more general tracks. Ultimately, strongly vocationally-oriented systems are thus likely to achieve particularly high levels of intermediate skills. These do have the advantage of providing more adequate skills to that part of a cohort who would not have progressed beyond compulsory education, but they do constrain further educational achievement among those who would have entered more academic tracks at the upper secondary level otherwise. A satisfactory empirical assessment of both components would seem a particularly important task for future research. In the absence of such research, the above discussion indicates why educational policy priorities differ across different European countries: the main problem in systems with strong OLMs is likely to be overcoming the diversion effects of large-scale systems of vocational training, while policy makers in more general educational systems will be more concerned about achieving higher progression rates into upper secondary or equivalent training.

4.4.3 Equity issues in transitions

Much of the foregoing discussion of school to work transitions has focused on comparing 'average' transitions across different countries and/or institutional systems. However, the pathways taken by different groups of young people within specific national contexts can vary markedly. The extent to which this diversity is structured by gender, ethnic and social differences has been the subject of much debate. Some commentators have argued that individual trajectories from school to the labour market have become more diverse but at the same time less bound by factors such as gender, social background and so on. Analyses from the CATEWE project shed some light on this debate, indicating no general trend towards greater individualisation and revealing the persistence of gender, social background and national origin as important influences on the transition process. However, these differences are found to be constructed in distinct ways in different national contexts and at different periods of time.

Gender

Recent decades have been characterised by considerable educational expansion across Europe, particularly among young women. In many European countries, women in the older cohorts were less likely than men to attain higher level qualifications. Among younger cohorts, this difference has diminished and in many countries female attainment of upper secondary education has surpassed that of men. Similarly, gender differences in the attainment of tertiary education have diminished over time, with significantly higher attainment levels now evident among females than males in Portugal, Belgium and Finland. Within secondary education, young women tend to outperform their male counterparts in examinations, at least in Ireland, Scotland and Sweden, though not the Netherlands.

The increasing educational participation of young women across Europe has not been accompanied by a significant diminution in gender segregation across different types of educational routes. Young women tend to be less likely to participate in school-based vocational education than young men, and even in systems with high levels of such provision (such as the Netherlands), the nature of participation tends to be strongly differentiated by gender. Participation in apprenticeship training also tends to be disproportionately concentrated among males across European countries. Even in countries with higher female participation in apprenticeships, gender differences persist in the occupational areas to which such apprenticeships are oriented. In addition, within tertiary education women are over-represented in lower level and less prestigious programmes.

What are the implications then of gender differences in educational attainment for labour market transitions among young people? The gender distribution of unemployment varies across European countries with no evidence of an 'average' gender difference across all countries. A commonality across countries is the existence of occupational segregation by gender, although the form taken by this segregation varies cross-nationally. There is tentative evidence that segregation is greater in systems (such as the Netherlands) with greater track differentiation at school level, in part because these tracks tend to channel young people into gendered occupational fields. However, segregation also occurs on entry to the labour market since even young women and men with the same level and type of education tend to end up in very different occupational and industrial niches. On average, young women tend to enter higher status occupations than young men. However, there is tentative evidence that they receive lower returns to their education in terms of status and pay than men.

Given the often diverse pathways taken by young women and men in their transition from education to the labour market, it is clear that any policy interventions cannot afford to be 'gender-blind'. Furthermore, since the nature of gender differences in education and labour market outcomes varies cross-nationally, policy also needs to be sensitive to the national institutional context. It appears that there is no necessary relationship between the type of education/training system and the extent of gender differences in educational attainment. There is tentative evidence, however, that countries with higher levels of provision of vocational education (either within school or as part of a 'dual' arrangement) tend to be more successful in promoting educational attainment among young males.

What appears to be common across European countries is that educational and occupational segregation by gender have remained remarkably persistent in the face of the introduction of equal opportunity legislation and positive action programmes. It is evident that information is needed on an on-going basis on both the institutional and the informal factors shaping the interaction between the education and labour market systems as well as on formal gender differences in the transition process.

Social background

Previous research has indicated the persistence of social class inequalities in educational attainment and has suggested that such inequalities are likely to be greater in systems with earlier selection into different educational tracks (Shavit and Blossfeld, 1993; Müller and Shavit, 1998). As such, social class background is likely to have at least an indirect effect on the transition process. In general, there is very little systematic comparative data on social class background and its relationship with educational and labour market outcomes (OECD, 2000). The Labour Force Survey does not collect such information and some national transition surveys lack comparable data on this measure. Analyses for a limited range of countries indicate the persistence of the relationship between family background and educational attainment, with those from working-class backgrounds disproportionately over-represented among the least qualified. Social class background is also associated with entry to further education, employment chances and job quality, even controlling for prior educational qualifications. It is recommended that information on socio-economic background be collected on an on-going basis for a wider range of countries in order to explore the relationship between social class background, educational outcomes and labour market integration.

National origin

Ethnicity and national origin have been neglected areas in comparative transitions research, in part because of the absence of systematic data on the topic. Data on the national origins of young people were available from the French and Swedish longitudinal surveys. Analyses of these data are highly revealing of the significant role of national origins in structuring the transition process. Those born abroad and those with two parents born aboard are at a disadvantage in terms of educational attainment compared with native-born young people. This disadvantage is more evident in France which has a more selective educational system. Differences are also evident in early labour market outcomes with higher unemployment risks among immigrant youth, even controlling for education. Direct labour market disadvantage is more evident in Sweden where education plays a less clear-cut signalling role than in the French context. It is interesting to note that the way in which differences by national origin are constructed varies across countries; in France, the group experiencing greatest disadvantage are young people of North African origin while in the Swedish case this comprises those of Asian (Turkish) Latin American and other African origin.

The relevance of ethnic/national differentiation to transitions may vary across European countries. However, it is clear that information is needed on national origins in order to explore relative disadvantage in different educational and labour market contexts. Such data need to reflect the national context, exploring the ethnic/national distinctions which are most appropriate in that context.

In general, greater attention should be given to the development of equity measures in education and transition outcomes which are at the same time comparable across countries and sensitive to the realities of the national context. In addition to social class and ethnicity, other potential sources of differentiation in young people's pathways should be explored. For example, there has been almost no attention given to the transition process experienced by young people with disabilities.

4.5 DATA ISSUES AND RECOMMENDATIONS

The experience of the CATEWE project has highlighted gaps in existing transition research, the strengths and weaknesses of existing data on the topic and issues to be considered in further work.

4.5.1 Areas for further research

Four main gaps are evident in existing research. In the first place, comparatively little is known about employer strategies in the labour market, particularly as they impact on young people. At present, researchers tend to make inferences about employer preferences and practices on the basis of the actual pattern of employment and unemployment rather than from direct evidence. Little is known about the factors which underlie employers' recruitment decisions or the implications of changing employment practices for the hiring (or firing) of young people. In the face of changing educational and training provision, employers' use and perceptions of educational 'output' has been given little attention. This area of research is likely to prove particularly fruitful in assessing the likely impact of educational reforms and changing employment practices.

Secondly, research on the actual transitions made by young people needs to be complemented by studies of the ways in which young people experience this process. What factors shape young people's decisions about the routes they take within and beyond the educational system? What are their goals and expectations? Do terms such as 'over-education' have real meaning in the lives of young people? How does young people's experience of paid work shape their family and interpersonal relationships, and vice versa? Although there have been several research studies of such issues, relatively few have been cross-national and comparative (e.g. Evans and Heinz, 1996; Heinz, 1999). Such studies are crucial to an adequate understanding of (changes in) transition processes across Europe, and they need to be linked theoretically and empirically to the study of more 'objective' transition patterns exemplified by this project.

A third area of research relates to policy interventions. A considerable body of research focuses on the impact of such interventions, particularly on State training or employment schemes; this research has sparked a good deal of debate about the appropriate way to measure the net effect of such intervention programmes. However, little attention has been given to developing a broader framework for considering policy interventions and how their role may vary across different contexts. Do interventions target different groups of young people in different countries? How do they relate to 'regular' employment and to the initial educational system? Are there 'trade-offs' between different forms of policy intervention? An understanding of these relationships is crucial to the development of appropriate interventions in different institutional contexts.

Fourthly, research has tended to focus on *national* variation in the school to work transition process with the consequent neglect of an exploration of regional and/or local differences. However, labour market conditions are likely to vary from one area to another as is the supply of (certain types of) education and training. The extent to which such variation is significant is also likely to relate to national-level differences, for example, in the extent of decentralisation of policy-making. An exploration of regional differences would, therefore, represent a significant contribution to our understanding of the transition process.

In addition, further research is needed on the impact of field of education on transition outcomes and on the interrelationship between initial education/training and access to life-long learning.

4.5.2 Data issues

The experience of carrying out analyses as part of the CATEWE project highlighted the strengths and weaknesses of existing data on transitions.

Analysis of the European Community Labour Force Survey yields considerable insight into the process of labour market integration across the entire spectrum of European countries. However, the absence of 'flow' data and problems concerning the comparability of education and training variables and of labour market status were highlighted (Couppié and Mansuy, 1999a; 1999b). It is recommended that the use of the ECLFS for transitions research could be enhanced through: the provision of more extensive documentation on the database (covering national procedures for variable generation, greater details on sampling and so on), more extensive access to the database for scientific research and improving the comparability of measures over time (Gangl and Müller, 1999). It is felt that the recent module on transitions has great potential for cross-national research on transitions. It is recommended that such a module be included in the Labour Force Survey on a regular basis in the future. Attention should also be given to collecting more detailed information on the transition sequence, the experience of multiple statuses (e.g. education and work), participation in training and employment schemes, and social background information (Raffe, 2000).

Existing national transition surveys were found to vary significantly in their sample design, purpose, content and timing. As a result, full harmonisation is felt to be unrealistic and may actually be counter to the (national) purpose for which the surveys are designed (Raffe, 2000). However, it is recommended that existing and future surveys should draw on an agreed set of criteria to achieve partial harmonisation. Surveys should aim to cover: variables which reflect equity issues (such as social background and ethnicity), pathways through education, training and within the labour market, family/household transitions, measures of dual status (e.g. combining education and work), distinct measures of inactivity, time-related measures, reference transition events and common classifications for education, occupation and social background (Raffe, 2000). In terms of a European-wide survey, it is considered that a prospective age cohort design would have considerable advantages in capturing different stages of the transition process and being sensitive to cross-national differences in the timing and sequencing of such transitions. While a tailor-made survey along these lines would be the ideal, the planned longitudinal element of the PISA survey could be used to provide comparable information on the transition from school to the labour market.

CHAPTER FIVE: DISSEMINATION OF PROJECT RESULTS

A number of complementary strategies were adopted within the life-time of the CATEWE project. Papers based on the conference were presented at a range of conferences at both national and European levels. These included the European Research Network on Transitions in Youth annual workshop, the European Socio-Economic Research Conference and the European Sociological Association annual conference. Furthermore, the CATEWE team organised an International Workshop on Comparative Data on Education-to-Work Transitions, held at the OECD in Paris in June 2000 in association with Network B (on transitions) of the OECD's Educational Indicators Project. The workshop enabled us to disseminate our work to policy-makers, statisticians and researchers from eighteen countries as well as from the European Commission, EUROSTAT, CEDEFOP and the OECD itself. It also gave us the opportunity to contribute to the debate on proposals for future data harmonisation and develop links with interested parties.

A number of the papers presented at conferences have been published in conference proceedings. In addition, articles on the project findings have been published in a number of policy-related journals and CATEWE contributions will be part of a forthcoming volume on *Key Data on Vocational Training* along with a CEDEDOP publication on research on vocational training. The CATEWE working papers have also been made available on our web-site (http://www.mzes.uni-mannheim.de/projekte/catewe/). Details of conference papers and publications are given in Table 5.1 below.

At present, a book proposal on the Labour Force Survey analyses is being circulated to relevant publishers. It is intended to submit papers on the School Leaver Survey analyses to scientific journals. We also intend to use existing links among project partners to engage in national-level dissemination to policy-makers and other interested parties.

Table 5.1: Papers and publications by the CATEWE project team

Author(s)	*Title of paper and conference/publication*
1. Publications	
Biggart, Andy and Raffe, David (2000)	'Educational backgrounds and transition outcomes in four European countries: A comparison of school leavers' destinations in France, Ireland, the Netherlands and Scotland', pp.113-131 in T. Hammer (ed) *Transitions and Mobility in the Labour Market: Proceedings: Workshop, September 2-5 1999, Oslo, European Network on Transitions in Youth*, Oslo: NOVA.
Brauns, Hildegard, Gangl, Markus and Scherer, Stefani (1998)	'Education and Unemployment: Patterns of Labour Market Entry in France, the United Kingdom and West Germany', pp. 287-312 in David Raffe, Rolf van der Velden and Patrick Werquin (eds.), *Education, the Labour Market and Transitions in Youth: Cross-National Perspectives.* Proceedings of the 1998 European Workshop of the European Research Network on Youth. Edinburgh: Centre for Educational Sociology.
Couppié T., Mansuy M. (1998)	'The characteristics of youth emplyment in Europe: a typology based on the Labour Force Surveys', pp. 1-13 in David Raffe, Rolf van der Velden and Patrick Werquin (eds.), *Education, the Labour Market and Transitions in Youth: Cross-National Perspectives.* Proceedings of the 1998 European Workshop of the European Research Network on Youth. Edinburgh: CES.
Couppié T., Mansuy M. (2000)	'The situation of Young labour-market entrants in Europe', *Céreq, Training and employment*, n°39, April-June.
Couppié T., Mansuy M. (2000)	'La place des débutants sur les marchés du travail Européens', *Céreq, Bref n°154*, May.
Gangl, Markus (2000)	'European Perspectives on Labour Market Entry: A Matter of Occupationalised versus Flexible Arrangements in Labour Markets?', pp. 417-452 in Torild Hammer (ed.), *Transitions and Mobility in the Youth Labour Market.* Oslo: NOVA.
Gangl, Markus, Hannan, Damian, Raffe, David and Smyth, Emer (1998)	'CATEWE – A Comparative Analysis of Transitions from Education to Work in Europe', *EURODATA Newsletter*, 8 (Autumn), 11-15.
Hannan, Damian F. et al. (forthcoming)	'The effects of national institutional differences in education/training to work transitions in Europe: a comparative research project (CATEWE) under the TSER programme', in *Second Report on Vocational Research in Europe*, CEDEFOP.
Iannelli, Cristina (2001)	*The Effect of Schools on Young People's Transitions: A Comparative Perspective.* CES Briefing. University of Edinburgh, forthcoming.
Mansuy, Michèle, Couppié, Thomas, Fetsi, Anastasia, Scatoli, Carlo Mooney, Paul, van den Brande, Godelieve	*Key Data on Vocational Training in Europe: The Transition between Education and Working Life,* Volume 3, forthcoming spring 2001, European Commission.
Müller, Walter (1999)	'Wandel in der Bildungslandschaft Europas' [Changes in European educational systems.], Gegenwartskunde, 1999: Sonderband 11:

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Author(s)	*Title of paper and conference/publication*
	Deutschland im Wandel - Sozialstrukturelle Analysen, pp. 337-356
Müller, Walter (2000)	'Bildung in Europa. Zwischen Tradition und Innovation' [Education in Europe. Between tradition and innovation.], *FORUM - Forschung* Universität Mannheim, 2000: pp. 34-41
Müller, Walter	'Education and Labour Market Outcomes: Commonality or Divergence?' In Max Haller (ed.) *The Making of the European Union. Contributions of the Social Sciences.* Berlin: Springer, 2001, p 287-308.
Müller, Walter, Markus Gangl and Stefani Scherer (forthcoming)	'Übergangsstrukturen zwischen Bildung und Beschäftigung' [The structure of transitions from school to work.], Forthcoming in Matthias Wingens and Reinhold Sackmann (eds.), *Bildung und Beruf.* Weinheim / Munich: Juventa, 2001.
Müller, Walter and Wolbers, Maarten (2000)	'Educational attainment of young people in the European Union: cross-country variation of trends over time', pp. 263-302 in Torild Hammer (ed.), *Transitions and Mobility in the Youth Labour Market.* Oslo: NOVA.
Raffe, David (1999)	'A comparative analysis of transitions from education to work in Europe', pp. B/4-B/7 in *The European Socio-Economic Research Conference: Conference Reader, Brussels 28-30 April 1999*, European Commission.
Raffe, David (2001)	'The social construction of cross-national transition research: The Network on Transitions in Youth', (in French translation) in *Éducation et Sociétés*, thematic issue on *Entre éducation et travail: les acteurs de l'insertion*, forthcoming.
Smyth, Emer and McCoy, Selina (2000)	'Differentation among school leavers in the transition process: a comparative analysis', pp. 303-341 in Torild Hammer (ed.), *Transitions and Mobility in the Youth Labour Market.* Oslo: NOVA.
Velden, Rolf van der, & Wolbers, Maarten (2000).	'De integratie van schoolverlaters op de arbeidsmarkt in de Europese Unie: de rol van institutionele factoren', in F. Holderbeke, R. Wielers & N. van den Heuvel (red.*), De transitionele arbeidsmarkt. Contouren van een actief arbeidsmarktbeleid.* The Hague: Elsevier Bedrijfsinformatie (in press).
2. Working papers and reports	
Brauns, Hildegard, Gangl, Markus and Scherer, Stefani (1999)	*Education and Unemployment: Patterns of Labour Market Entry in France, the United Kingdom and West Germany.* MZES Working Paper No.6. Mannheim: MZES.
CATEWE (1999)	*Construction of a Comparative Database of School Leavers' Surveys: A Report*, Report to the European Commission.
CATEWE (2000)	*A Comparative Analysis of Transitions from Education to Work in Europe - Based on National School Leavers' Surveys*, Report to the European Commission.
Gangl, Markus (2000)	*European Perspectives on Labour Market Entry: A Matter of Institutional Linkages between Training Systems and Labour Markets?* MZES Working Paper 24. Mannheim : MZES
Gangl, Markus (2000)	*Education and Labour Market Entry across Europe : The Impact of Institutional Arrangements in Training Systems and Labour Markets.* MZES Working Paper 25. Mannheim : MZES
Gangl, Markus (2000)	*Changing Labour Markets and Early Career Outcomes : Labour Market Entry in Europe over the Past Decade.* MZES Working Paper 26. Mannheim : MZES

Author(s)	*Title of paper and conference/publication*
Hannan et al. (1999)	*A Comparative Analysis of Transitions from Education to Work in Europe, Volumes 1 and 2*. Dublin: ESRI Working Paper No. 118.
Hannan, Damian F., Werquin, Patrick (1999)	*Education and Labour Market Change: The Dynamics of Education to Work Transitions in Europe*. Report to the European Commission.
Iannelli, Cristina and Soro-Bonmatí, Asunción (2001, forthcoming)	*The Transition from School to Work in Southern Europe: The Cases of Italy and Spain*. Mannheim: MZES Working Paper.
Müller, Walter, Brauns, Hildegard, Couppié, Thomas, Gangl, Markus, Mansuy, Michèle, Welters, Riccardo and Wolbers, Maarten (1999)	*A Comparative Analysis of Transitions from Education to Work in Europe – Based on the European Community Labour Force Survey*. Mannheim, Maastricht, Marseille: Report to the European Commission.
Raffe, David (2000)	*Strategies for Collecting Cross-National Data on Education-to-Work Transitions: Recommendations of the CATEWE project*. CATEWE Deliverable to the European Commission.
3. Conference papers (not published in proceedings)	
Biggart, Andy and Raffe, David (1999)	*Educational Backgrounds and Transition Outcomes in Four European Countries*. Delivered at the European Research Network on Transitions in Youth: Annual Meeting, Oslo, Norway, 2 September 1999.
Biggart, Andy and Raffe, David (1999)	*Educational Backgrounds and Transition Outcomes in Four European Countries*. Delivered at the European Conference on Educational Research 1999, Lahti, Finland, 23 September 1999.
Brannen, Karen, Smyth, Emer (2000)	*Issues in constructing a comparative database from national transition surveys*. Presentation to the International Workshop on Comparative Data on Education-to-Work Transitions, Paris, June 2000.
Couppié T., Mansuy M. (2000)	*Using the Eurostat LFS as a source of data on transition in Europe*. OECD Meeting, Paris, June 2000.
Gangl, Markus (1998)	*CATEWE - A Comparative Analysis of Transitions from Education to Work in Europe*, at the Joint CEDEFOP/TSER Conference on Research on Vocational Training, June 1998, Thessaloniki/CEDEFOP.
Gangl, Markus (1999)	*Education and Unemployment: Patterns of Labour Market Entry in France, the United Kingdom, and West Germany*, at the 4th ESA Conference 'Will Europe Work?', Amsterdam, August 1999 (Stefani Scherer / Markus Gangl)
Gangl, Markus (1999)	*European Perspectives on Labour Market Entry: A Matter of Occupationalized versus Flexible Arrangements in Labour Markets?*, at the 1999 Annual Workshop of the European Research Network on Transitions in Youth, Oslo, September 1999
Gangl, Markus (1999)	*Unemployment Risks in Early Labour Market Careers: Results from Labour Force Surveys and Implications for the Use of Longitudinal Data*, at the SONAR-Workshop of the Faculty of Economics and Management, University of Gent, November 1999
Gangl, Markus (1999)	*Education and Unemployment: Patterns of Labour Market Entry in*

Author(s)	*Title of paper and conference/publication*
	France, the United Kingdom, and West Germany, at the MZES Workshop on 'Education and the Labour Market', January 1999 (Hildegard Brauns / Stefani Scherer / Markus Gangl)
Gangl, Markus (2000)	*Using LFS Data for Cross-National Research: Promises, Examples, and Problems*, at the International Workshop on Comparative Data on Education-to-Work Transitions, OECD, Paris, June 2000 (Walter Müller / Markus Gangl)
Gangl, Markus (2000)	*Using LFS Data for Cross-National Research on School-to-Work Transitions: Examples from the CATEWE Project*, at EUROSTAT, Unit E-3: Education, health and other social fields, Luxembourg, October 2000 (Walter Müller / Markus Gangl)
Gangl, Markus (2000)	*Education and Labour Market Entry across EU Countries: Looking for the Effects of Institutional Contexts*, at the Annual Meeting of the MZES Advisory Board, February 2000
Gangl, Markus (2000)	*Ausbildung und Berufseinstieg in Europa: Bildungssysteme, Institutionelle Effekte, und ökonomischer Kontext als Erklärung der Länderunterschiede im Übergangsprozeß zwischen Schule und Beruf?* [Education and Labour Market Entry in Europe: Educational Systems, Institutional Effects, and Macroeconomic Context as Determinants of Cross-National Differences in Transition Patterns.], at the ABA Research Seminar, June 2000
Gangl, Markus (2000)	*Simulationstechniken in der komparativen Sozialforschung* [Simulation analysis in comparative social research], at the 30. Kongreß der Deutschen Gesellschaft für Soziologie, Cologne, 26-29 September 2000
Grelet Y., Mansuy M., Thomas G. (2000)	*How does the transition process lead to financial sufficiency or not?*, European Research Network on Transitions in Youth 2000 meeting, Antwerpen (Belgium)
Hannan, Damian F., Werquin, Patrick (1999)	*Education and Labour Market Change: The Dynamics of Education to Work Transitions in Europe*, Presentation to the TSER Socio-Economic Research Conference, Brussels, 28-30 April.
Hartkamp, Jannes, and Rutjes, Hans (2000)	*A Route to Skills: A Comparative Analysis of the Position of Apprenticeship in Transition Systems in France, Ireland, the Netherlands and Scotland.* Delivered at the European Research Network on Transitions in Youth: Annual Meeting, Antwerp, 7-9 September 2000.
Iannelli, Cristina (2000)	*School Effect on Youth Transitions in Ireland, the Netherlands and Scotland.* Delivered at the European Research Network on Transitions in Youth: Annual Meeting, Antwerp, 7-9 September 2000.
Iannelli, Cristina and Raffe, David (2000)	*Vocational Upper Secondary Education and the Transition from School.* Delivered at the Euroconference on Educational Differentiation in European Societies: Causes and Consequences, Giens, 16-21 September 2000.
Mansuy M., Schröder L. (2000)	*Young immigrants on the labour Market in France and Sweden*, European Research Network on Transitions in Youth 2000 meeting, Antwerpen (Belgium)
Raffe, David (1999)	*The Gender Dimension in Socio-Economic Research: Comparative Analysis of Transitions from Education to Work in Europe.* Delivered at the European Socio-Economic Research Conference, Brussels, April 1999.
Raffe, David (1999)	*Transitions from Education to Work in Europe.* Seminar, University of Essex, 29 November 1999.

Author(s)	*Title of paper and conference/publication*
Raffe, David (2000)	*Strategies for Collecting Cross-National Data on Education-to-Work Transitions: Recommendations of the CATEWE project.* Delivered at the International Workshop on Comparative Data on Education-to-Work Transitions, Paris, France, 21 June 2000.
Raffe, David (2000)	*Strategies for Collecting Cross-National Data on Education-to-Work Transitions: Recommendations of the CATEWE project.* Delivered at the European Research Network on Transitions in Youth: Annual Meeting, Antwerp, Belgium, 9 September 2000.
Raffe, David (2000)	*The role of vocational training and education in the combat against youth unemployment.* Delivered at the International Expert Forum on Winning the Future: Strategies against Youth Unemployment, EXPO, Hannover, Germany, 25 October 2000.
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A COMPARATIVE ANALYSIS OF TRANSITIONS FROM EDUCATION TO WORK IN EUROPE (CATEWE)

ANNEX TO THE FINAL REPORT

CATEWE PROJECT DELIVERABLES

Status of deliverables

Deliverable	*Status*
Content deliverables	
1. Paper outlining a conceptual framework for transitions in Europe	Completed
2. International workshop	Joint workshop with the OECD Thematic Review team in June 1998
3. Cross-national database on school leavers	Completed for internal project use; expanded to construct three separate datasets
4. Paper on school to work transitions in a European context (using Eurostat Labour Force Survey data)	Completed
5. Paper on school to work transitions (using school leavers' survey data)	Completed
6. International workshop on data harmonisation	Held in June 2000
7. Proposals for a European-wide school leavers' survey	Completed
Contractual deliverables	
1. Six-monthly progress reports (M6, M12, M18, M24, M30)	Completed
2. Twelve-monthly cost statements (M12, M24)	Completed

Working papers which have been written or substantially revised since the submission of these deliverables are presented in the remainder of this volume.

January 2001

Prepared as part of the TSER project:
Comparative Analysis of Transitions from Education to Work in Europe

Education and Unemployment: Patterns of Labour Market Entry in France, the United Kingdom and West Germany

Hildegard Brauns

Markus Gangl

Stefani Scherer

Mannheim Centre for European Social Research (MZES)
University of Mannheim
P.O. Box 10 34 62
D-68131 Mannheim
Germany
E-mail: Markus.Gangl@mzes.uni-mannheim.de

WORKING PAPERS

Abstract

Over the last two decades, youth unemployment emerged as one of the major problems of many contemporary European societies. As educational achievement is regularly argued to prevent labour market exclusion, this paper explores the educational stratification of unemployment in the early labour market career and its institutional embeddedness in specific education and employment systems. For the sake of comparative analysis, the paper investigates youth unemployment in France, the United Kingdom and West Germany as these three countries differ greatly in terms of major institutional characteristics of their educational systems and labour markets. The analyses use microdata from national Labour Force Surveys of the mid-1980s and the mid-1990s allowing an assessment of recent trends as well as comparative analysis. Methodologically, we rely on single-stage and sequential logit models to estimate the effects of individual educational achievement on unemployment risks. As a result, we are able to present evidence of a sharp distinction between the educational stratification observed in Germany on the one hand and France and the United Kingdom on the other. In Germany, labour market entry is found to be quite smooth and immediate for vocationally qualified leavers, while extensive periods of searching for a first job is confined almost exclusively to the least qualified. After initial employment has been found, education plays a negligible role in the risk of unemployment which is tied more to aspects of employment positions. In France and Britain, in contrast, the match between qualifications and jobs is less clear-cut. Rather, the level of education provides advantages in terms of reduced time searching for employment and lower job instability, although differentiation is much less pronounced. In addition, education effects maintain a positive impact on job stability even controlling for positional characteristics, suggesting a more gradual match between qualifications and attainment. Results are found to be stable for both time periods, indicating idiosyncratic rather than secular changes in the educational stratification of youth unemployment over the last decade.

1 Introduction*

In many European societies, the rising incidence of youth unemployment has been one of the major social problems since the 1970s. A significant number of young people experience unemployment after completing their education, are likely to be unemployed again years later and to face extended periods of social marginalisation during their early careers. While investment in education has traditionally been seen as the best means for young people to secure a good job, the formal education and training system is presently subject to severe criticism for its deficiencies in endowing school-leavers with marketable skills. Against this background, it is a central concern of both policy makers and social science researchers to explore the reasons why young people have these difficulties in getting and keeping a job, the way in which educational credentials bring them "in the door" (Bills 1988), and the way in which distinctive arrangements in the institutionalisation of education make a difference in securing "employability" for school-leavers.

The present paper analyses the incidence of youth unemployment with reference to individuals' educational achievement, and explores how the educational stratification of unemployment varies across countries and across time in the course of educational expansion. The countries to be compared are West-Germany, France and the United Kingdom. The three countries have all experienced massive educational expansion over recent years, but still differ considerably in the institutionalisation of their education and labour market systems. While the cross-national perspective will shed light on the impact of the specific institutional environment on the labour market value of single educational credentials, the historical perspective is supposed to give some evidence on the extent to which this value depends on the educational resources of all other job candidates in the market, or in other words, on the relative scarcity of the achieved credential.

Despite a substantial amount of comparative work on individual returns to education on the one hand, and of research on unemployment on the other, the two lines of research are hardly connected. Most comparative work on individual education returns focuses on work related outcomes such as income, occupational prestige, social class position or access to so-called 'good' versus 'bad' jobs. However, in times of slack labour markets, it is essential to also investigate the way in which educational credentials help people 'get in the door'. Micro-level comparative research on unemployment, by contrast, is sparse. The few existing studies are almost exclusively restricted to German-American comparisons and typically focus on individual unemployment dynamics, the issue of duration

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dependence and on the role of benefit disincentives. The present paper aims to address to this research gap. It will be guided by the following main questions:

Which role does education play with regard to young people's risk of unemployment? To what extent does the importance of educational credentials in unemployment risk depend on the career stage of individuals?

Do we find evidence of distinct national linkages between education and unemployment risks? If so, in what way does the institutional set-up in the three countries shape the educational stratification of unemployment risks?

How does the increasing supply of school-leavers with higher education over the course of educational expansion affect the distribution of unemployment risks? Is there a common secular trend across nations?

The remainder of the paper proceeds as follows: the next section presents theoretical perspectives and central research questions that will be used to guide our analysis. Section 3 describes data and empirical procedures. The analyses draw on individual data from national labour force surveys carried out in the mid-1980s and mid-1990s.[1] Empirical results are the subject of sections 4 to 6. Section 4 gives descriptive results on overall levels and types of unemployment at the two survey points in the three countries. In sections 5 and 6, the risk of unemployment is related to educational achievement. In a first step, the rate of unemployment experienced by each educational group and the respective distribution of relative advantages and disadvantages according to education are compared across time and country. In a second step, we go a little further into the details of unemployment risks in early labour market careers, starting from the idea that the benefits/risks attached to formal education per se depend on the career stage of the individual at risk of unemployment. It will be argued that formal education is a highly important and differentiating resource for school-leavers who are searching for their first job immediately after leaving school, while it is a still significant, but less stratifying asset once young people have succeeded in finding employment, and thus transformed their educational resources into positional resources that more or less protect them against unemployment. However, the extent to which formal education matters more in the hiring stage than in the stage after job placement has taken place is expected to vary between countries due to institutional differences in the educational and employment systems. The paper concludes with a summary of the empirical results.

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[1] Surveys from the mid-1980s and mid-1990s are chosen because both periods depict periods of peak unemployment in each country. The more tense the labour market situation, the stronger the competition for jobs and the more demanded background characteristics escalate due to selective hiring (Thurow 1975). We should then be able to identify strong educational effects and potential differences in the patterns across countries. Furthermore, the similarity in labour market situation across time allows us to hold business cycle effects constant and, thereby, to capture the effects of educational expansion.

2 Theoretical Perspectives

Both economic and sociological theories acknowledge a strong relationship between education and unemployment, although a variety of (conflicting) mechanisms are specified for explaining the linkage (Mincer 1994; Spence 1973, 1981; Kettunen 1994). Signalling and screening models argue that employers hire, place and promote workers on the basis of imperfect information about their true productivity (Stigler 1961; Arrow 1973; Spence 1973 among others). Educational credentials are interpreted as a filter that serves primarily as a measure of performance ability for the employers, important to the extent that other reliable indicators are lacking. Thurow's (1975) "queuing" version of screening theory contends that employers rank order the desirability of job candidates according to their trainability for given jobs. Credentials indicate which job candidates are most and which are least likely to be trained for a given job. Individuals are distributed across job opportunities on the basis of their relative position in the labour queue. In times of labour surplus, school leavers who are placed at the bottom of the labour queue will be unemployed.

Educational achievement, however, has many dimensions that may signal competence or incompetence for a given job. As a regularity, we assume that

H1: the level of general education reached and vocational specificity of the degree earned make a difference for one's chances of being offered a job.

First, employers look for information about job candidates' general cognitive capacities to learn new skills and to adapt to new technical environments. Therefore, they rely to some extent on the sorting done by the educational system, since educational processes already involve long periods of screening and subsequent selection (Jencks 1972). Second, employers are seeking employees who already have some expertise in the tasks at hand, in order to minimise the costs of training. Achievement of vocational skills should then also be valued on the labour market.

Employers do more than just educational screening, however. Gender, date of leaving school and prior work experience, where this information is available, are other important sources of information about employees in labour markets. The crucial question is how much weight is placed on education as a screening device and to what extent does this depend on the circumstances under which young people are at risk of unemployment. According to the reasoning of Thurow (1978),

H2: educational achievement should be a more differentiating resource for initial hiring into the labour force than after first job placement has taken place, that is for workers with prior job experience.

The relative weight of education is thus assumed to be dependent on the individual's career stage. Upon leaving school, when job-related performance records are either not available or are only scarcely available to employers, they tend to rely primarily on the candidates' performance in the educational and training system. Once the candidate has been employed and has succeeded in transforming his educational resources into positional resources, which more or less protect him against unemployment, the role of education as a performance *indicator* should to some extent be superseded by direct performance records. Nonetheless, we expect educational achievement to continue to have an effect after entry into employment. First, plausible information about individuals' productive capabilities unfolds only slowly with time. Therefore, in the early labour market career, education is continuously used as an important screening device in employers' personnel decisions. Second, due to environmental pressures employers also reward credentials as a matter of firm policy (Spilerman 1986). Third, credentials are rewarded for their social value (Spilerman and Lunde 1991; Collins 1979; Bowles and Gintis 1976). Credentials indicate conventional standards of sociability, the ease of adapting to new tasks and the capacity to internalise organisational rules and firm culture which makes their holders "promotable".

Thurow (1975: 93ff) also argues, however, that the concrete shape of the labour queue, i.e. the rank order of school-leavers and the "distance" between them, is determined by two factors: employer preferences for certain credentials and the distribution or dispersion of educational achievement among the job candidates. Referring to the first factor, larger differences in the benefit/risk pertaining to the various educational credentials may result if employers have a pronounced preference for certain credentials. This "preference" for certain credentials over others, that is for certain aspects of educational achievement, is significantly shaped by institutional features of the national education system, the labour market and their interrelationship (see Breen et al. 1995; Müller/Shavit 1998; Brauns et al. 1999; Kerckhoff forthcoming, 1996; Hannan et al. 1997). Overview 1 gives a description of the educational systems in the three countries and their link to the labour market.[2]

As a consequence of substantial cross-national differences in the institutionalisation of educational and labour market systems, employers' "preferences" for certain facets of educational achievement should vary between the three countries.

In Germany, occupational labour markets prevail in which jobs are clearly defined in terms of content and occupational skill requirements. Therefore, we expect German employers to primarily reward occupational significance of the achieved certificate when selecting among job candidates.

H3: compared to school-leavers with general education only, vocationally qualified school-leavers should profit from substantial advantages with regard to labour market entry.

Vocationally qualified school-leavers gain a number of advantages compared to school-leavers with general education only. First, given that apprenticeship-training is by far the most widespread form of vocational education in Germany, vocationally qualified school-leavers are highly skilled in an occupation, already socialised into working life and into the organisational culture of the company.

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[2] The classifications of the three labour market types are only ideal-type descriptions. Since the analysis proceeds only at the national level, it intends to express the predominance of a certain type of labour market structure in a given national setting. All three labour markets are indeed made up of occupational as well as firm-internal labour market structures (see Kalleberg/Berg 1987).

Overview 1

Germany is typically associated with the predominance of occupationally structured labour markets where jobs are standardised nationwide, clearly defined in terms of content and occupational skill requirements (see Maurice et al. 1982; Eyraud/Marsden/Silvestre 1990; Marsden 1990; Marsden/Ryan 1991a, 1995). This labour market type is said to be closely linked to the strong emphasis on vocational training in the German education system, which confers highly standardised, occupationally-specific qualifications. The large majority of German school-leavers, from all levels of general education, have completed vocational training which predominantly takes place within the dual, that is the apprenticeship training system. The dual system provides a high degree of homogeneity throughout the system. It is organised along the lines of occupations, almost 400 in the skilled trades and administration, industry, services, agriculture, health etc. Compared to vocational education systems in most other countries, the German system is not hierarchically stratified, in that hierarchical qualification tracks are offered which require specific attainment in the general education system for admission. Although pupils' choices of occupations to be trained in are not regulated by educational policy, one's level of general education attained largely determines the chances and choices made. Overall, the concept of a "Beruf" (an occupation) is a central principle that regulates training content, qualification standards and examinations, in particular in the dual system but also in higher education. Higher education is also shown to be less stratified, horizontally and vertically, but also less expanded than in other countries (see OECD 1998). Academic training is traditionally offered by the universities, involving at least four years of study. Shorter, less academic studies, although on a highly theoretical level, are provided by the "Fachhochschulen".

France is typically associated with the prevalence of internal labour markets. In contrast to occupational labour markets, job design and skill requirements are highly firm-specific. In internal labour markets, recruitment into a limited number of entry points occurs, found at the bottom of firm-specific job ladders. On these ladders individuals may gradually progress from one job to the other which entails the progressive development of skills and knowledge. The weak emphasis in the French education system on vocational education, and on apprenticeship training in particular, is considered an important indication of this labour market type. Compared to Germany, the French education system traditionally has a much stronger emphasis on general than on vocational education. Over the last two decades, however, vocational education facilities have been expanded and modernised. Yet, vocational training is still combined with a preference for the schoolroom over the workplace for vocational preparation. General and vocational education are embedded within a single integrated system which is highly stratified. Below the level of tertiary education, qualifications are available on four distinctive levels, each of which is differentiated into various tracks. Vocational qualifications alone are offered on three levels and in three different branches, the latter being differentiated into a number of tracks (see Brauns/Steinmann 1999; Brauns forthcoming). From the institutional interweaving of vocational and general education and the selection regime in the French education system (see Brauns 1998) it follows that achievement of vocational qualifications is highly related to (non-)achievement in the general school system. Likewise, tertiary education is highly stratified, both horizontally and – on three levels - vertically. Long-term studies are available at the universities, and on a smaller scale, at the elitist "Grandes Ecoles". Short-term studies in some academic areas are awarded by the universities, and on a much smaller scale, by the elitist preparatory courses for the "Grandes Ecoles". More practical courses are taught by a number of other institutions that have been designed for the training of highly specialised technicians, nurses, kindergarten teachers etc.

There are conflicting views on the British labour market. Disregarding the relatively small segment of the skilled trades, where occupational labour markets traditionally prevail, and given the preference for "generalists" rather than "specialists" in the British labour market, one would tend to classify the labour market as one where internal rather than occupational labour market structures prevail (see Sorge 1983; Lane 1992; Marsden/Ryan 1991b). Although Great Britain shares the tradition of apprenticeships with Germany, there are substantial commonalities with France: first, apprenticeships have not attained the same prestige as in Germany nor the same wide diffusion across all economic sectors. They are mainly confined to the crafts and have been declining steadily since the 1960s. Second, vocational education has in general always been of secondary importance. As in France, it does not carry any status in the wider society and does not attract the more able and motivated youngsters. The British system has a stronger emphasis on general education and on producing "generalists" rather than "specialists" trained in a specific occupation. In the early 1990s, however, the British started an initiative to modernise vocational training which had previously been largely unregulated and unstandardised. Vocational qualifications are offered on different levels and in two different frameworks: broad-based General National Vocational Qualifications (GNVQs) and job-specific National Vocational Qualifications (NVQs). Higher education involves a "binary system" with the universities and the polytechnics combined with other technical colleges.

Second, apprenticeships serve a screening function. With apprentices, employers have drawn on a two- to three-year period of intensive face-to-face screening and can make their hiring decisions with considerable confidence about job applicants' productivity. Third, the German dual system operates according to market rules insofar as training capacities depend on companies' willingness to offer training places. As a consequence, young people who were offered an apprenticeship have a good chance of remaining with the company afterwards. Fourth, dual system training is highly standardised nationwide. Vocational qualification certificates confer highly reliable information about the apprentices' skills even for employers who hire other companies' apprentices.

In France and the UK, firm internal labour markets rather than occupational labour markets are predominant. Compared to Germany, this implies a limited importance of apprenticeship-training, a lower standardisation of jobs across firms and a less "institutionalised" linking of school-leavers' labour market opportunities to their educational achievement. In consequence, occupational skills are supposed to be relatively unimportant for recruitment into first job. Instead, employers should look for signals indicating job candidates' cognitive capabilities to be trained for the firm-specific tasks.

H4 In France and the UK, labour market entry is expected to be less selective but also less "smooth" than in Germany. Rather than valuing vocational qualifications, employers in these countries should screen job candidates according to their level of education attained.

In internal labour markets, school-leavers should not find themselves excluded from being hired simply on the strength of their educational (non)achievement. Since entrants have not yet developed the skills that are required for the job, entry is typically confined to the "bottom" of internal career ladders, often implying a "qualification-inadequate" occupational position and a temporary employment contract. The benefits relating to specific credentials typically arise later, in the light of the internal regulation of careers, when decisions about promotion and continued employment are made. This should be the case particularly in France. France is a country with a strong credentialist tradition where formal education plays an important role in legitimising peoples' social standing and careers (Brauns 1998). This credentialist orientation has been reinforced by state employment policy by means of a national "qualification-grid" aimed at establishing "correspondence" between people's educational performance and their employment situation.

Occupational labour markets, by contrast, are characterised by a "structured" transition from training into employment, namely a regulated, standardised career line. Due to the institutionalised link between types of educational pathways and occupational "entitlement", vocationally qualified school-leavers who are offered a job in their occupation are almost sure to secure a "good" job match. Therefore, once people are hired into the closed system, they convert their educational resources into certain positional, labour market related resources. Chances of career advancement and of security of employment are now closely tied to these positional resources rather than to formal education. Hence,

H5: net of the employment position that an individual occupies in the labour market, continued employment in the German labour market is expected to be far less dependent on the employee's educational resources than is the case in the British and especially the French labour market.

The second factor that Thurow (1975: 93ff) emphasises as shaping the labour queue is the distribution or dispersion of educational achievement among the job candidates. All three countries have experienced a massive expansion of education over the last decades resulting in a substantial increase in the average educational attainment of job candidates. What does this development mean for different educational groups with regard to their exposure to unemployment? The job competition model assumes that employers' skill requirements are responsive to changes in the relative supply of different skill groups. As a result of educational expansion, employers will attempt to acquire higher quality labour than in earlier periods. A greater proportion of higher educated groups will then be filtered into lower-paying and unstable jobs than in earlier times, which were previously allocated to lower qualified school-leavers. In a chain reaction, the latter are then increasingly pushed out of the labour market. Assuming that there are no offsetting changes in the demand side of the market[3],

H6: in times of labour surplus, educational expansion should foster increasing of labour market entry difficulties especially among the least qualified.

Following the argument made above on the role of institutional context, however, it seems plausible to expect the consequences of educational expansion for particular educational groups to vary across countries. We have no specific hypotheses on country differences in the impact of educational expansion. The empirical analysis should shed some light on this issue.

3 Data and Methodology

The empirical analyses draw on micro data from national Labour Force Surveys (LFS). Labour Force Surveys provide detailed information about the current employment situation and details about the educational achievements as well as, though to a limited extent, information about previous employment situations. They have many advantages in comparative research: the surveys share central methodological practices, a core set of questions and measurement set-ups. This commonality makes them very valuable for constructing cross-nationally and historically comparable indicators. In addition, the huge sample sizes available in the LFS allow for precise statistical estimation and detailed analyses of different educational groups. In this paper, we use the 1994 and 1984 Enquête

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[3] However, the actual distribution of employment chances among school-leavers is not only a function of the labour queue, supply-side characteristics, but also of the distribution of job opportunities, that is the availability of jobs with specific skill requirements. In other words, demand side factors may also generate a change in educational requirements over time. In this paper we will not be able to empirically disentangle the many factors that may create changing returns to single credentials: reform of the institutional set-up of the educational system, changes in the skill dispersion among cohorts of school-leavers, demand side factors due to technological developments and sectoral change etc. The aim of this paper is to capture the combined outcome of all processes.

Emploi for France, the 1994 and 1984 Labour Force Survey for the United Kingdom, and the 1995 and 1982 Mikrozensus for Germany. The German samples are confined to the West German population, given the specific situation in the former GDR, which would require separate investigation.

This paper analyses unemployment risks in individuals' early labour market careers, or as we call it, in the period of transition from school to work[4]. The primary focus, however, is not on explaining the dynamics of unemployment, but on the impact of education on unemployment risk in the early career[5]. In our definition, the transition period covers up to seven years after leaving school. We include those persons who left the education and training system within the seven years before the date of inquiry in the sample. This sample selection is derived from information on the year of leaving full-time education available in the French and British surveys[6]. Since the German surveys do not offer similar information, the date of completion of initial education and training was calculated synthetically. Given the stratified nature of the educational system, this strategy seems reasonably justified[7]. As a result of this restriction and after excluding individuals not in the labour force (for definition see below), in military service or in institutions, we have total sample sizes of 13,047 (France 1984), 11,767 (France 1994), 15,527 (United Kingdom 1984), 11,465 (United Kingdom 1994), 42,684 (Germany 1982)[8], and 19,494 cases (Germany 1995).

In defining the labour force, we basically adopt the ILO definition with slight modifications[9]. Unemployment is measured following the ILO convention, as being jobless but available for paid employment within two weeks, and actively searching for a new job[10]. Education is measured by the CASMIN scale developed for comparative research (Brauns/Steinmann 1999; Müller/Shavit 1998; König/Müller/Lüttinger 1988 for the original conception). We apply the eight-category version of the classification that is shown in table 1. The scale distinguishes hierarchical levels of attainment and differentiates between 'general education' and 'vocationally-orientated' tracks. Therefore, the CASMIN classification allows for the straightforward representation of non-linearities in the impact of education (see Braun/Müller 1997).

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[4] We also use the terms 'youth unemployment' or 'unemployment risks in the early career' interchangeably throughout the paper.

[5] So, this perspective relates to the stratificational power of education in the different countries with regard to the risk of unemployment as one possible labour market outcome among others.

[6] This definition explicitly excludes those in apprenticeships. We applied an additional correction for those who completed some work-based apprenticeship or other youth training, since the original question does not make any reference to such tracks. The correction consists of adding two years to the date of leaving full-time education in the case of leavers from apprenticeship training in France, and of leavers from apprenticeships or youth training in the United Kingdom.

[7] This measure was calculated by assuming 9 years of schooling for the completion of Hauptschule, 10 years for Realschule, and 13 years for Gymnasium. To this, 2 to 3 years of training were added in the case of participation in the vocational training system (dependent upon general qualifications being present), and university degrees have been taken as four and five additional years of education respectively (Fachhochschule versus traditional university degree). We also correct for young males' participation in compulsory national service.

[8] For the 1980s LFS in Germany we can draw on a larger sample size, namely a 98% sample. To take into account that these data are given in table format, a weighting had to be introduced (Frenzel/Lüttinger, 1990; Statistisches Bundesamt, 1982).

[9] Individuals participating in the education and training system irrespective of their detailed status are not regarded as belonging to the labour force; individuals who are in full-time education or work-based apprenticeship-type programmes (apprenticeship or youth training) at the time of the survey are thus excluded from all analyses.

[10] Individuals who are presently out of work, but are to take up a job in the near future are included among the unemployed as well, according to the ILO-definition.

Table 1: The CASMIN scale of educational qualifications

Qualification	Description
1ab	This is the social minimum of education. Namely, the minimal level that individuals are expected to have obtained in a society. It generally corresponds to the level of compulsory education
1c	Basic vocational training above and beyond compulsory schooling
2b	Academic or general tracks at the secondary intermediate level
2a	Advanced vocational training or secondary programmes in which general intermediate schooling is combined with vocational training
2c	Full maturity certificates (e.g. the Abitur, Matriculation, Baccalauréat, A-levels)
2c voc	Full maturity certificates including vocationally-specific schooling or training (e.g. Baccalauréat de technicien)
3a	Lower-level tertiary degrees, generally of shorter duration and with a vocational orientation (e.g. technical college diplomas, social worker or non-university teaching certificates)
3b	The completion of a traditional, academically-oriented university education

Source: adapted from Brauns/Steinmann 1997, pp. 33-35, and Müller/Shavit 1998, p.17

In the empirical analysis we adopt different perspectives focusing on the link between education and unemployment. Following a first description of the phenomenon in each of the three countries, we explore the role of educational achievement on overall levels, duration and reasons for unemployment. Cross-national differences and changes over time in the link between education and unemployment in the early career are investigated with regard to absolute rates and relative risks. Absolute rates of unemployment within single education groups are supposed to give an intuitive understanding of actual risk of exposure to unemployment. Odds ratios are used to gain a precise understanding of relative unemployment risks, or – put differently – inequalities in the exposure of various educational groups to unemployment. Odds ratios express the competitive (dis)advantage in terms of unemployment risk that holders of a specific educational credential have relative to others. They are derived from logistic regression models which are applied to our total sample populations.

In a complementary step, we explore the role of education in more detail by considering the circumstances under which individuals are at risk of unemployment. We differentiate between two sequential situations: the initial search period and (in)stability in the early career after a first entry into employment has taken place.

The first stage focuses on the risk of failing to enter the labour market at all. It is the hiring stage immediately after leaving school where the individual searches for his first job. At this stage, since job candidates have no previous job experience, employers are supposed to rely on job candidates' educational achievement as a major performance indicator. The second stage is the situation after successful labour market entry, in which the person is at risk of losing the job (being laid off in most circumstances) and not being re-employed. At this stage, the candidate has obtained initial work experience which the employer can draw on when deciding about displacement or re-employment. At the same time, the candidate has succeeded in transforming his or her education into positional resources which more or less protects him or her against labour market exclusion. While the first stage is a pure recruitment situation the picture is obviously more complex with regard to the second step. At this career stage, unemployment risks arise from different processes, namely firing, quitting and not being re-employed.

More precisely, we distinguish the two stages based on the information on whether an individual has ever had a paid job. The first stage includes all individuals and contrasts those who are presently unemployed without having taken up any kind of employment before against those who have succeeded in finding a job, regardless of whether they are employed or unemployed at the time of inquiry. Information about individuals' date of completing their initial education and training allows us to control for the time since leaving the ETS. Thus, in the first step, we model the probability of having found employment, or in other words, the probability of still being in the state of initial search unemployment at the time of inquiry, subject to individuals' educational achievement and the time since leaving the ETS. In the second stage, we focus on the probability of unemployment after a first transformation of education resources into job resources has taken place. We therefore include only those respondents who have already taken up paid work at the time of inquiry. This allows us to assess the (in)stability of the early career, depending on individuals' educational achievement and characteristics of their job. Given the cross-sectional character of LFS data, even with this partition we are only able to estimate the equilibrium outcomes in each stage, not the underlying actual processes taking place. It seems worth emphasising that LFS data does not provide longitudinal information about the whole period after leaving the ETS[11]. Thus, what we measure in the first stage is not the duration to first employment but the likelihood of having been in paid employment at the date of inquiry. With the second stage we assess the probability of not finding re-employment at the time of inquiry, for those who lost or quit their previous job, and not the *general* incidence of unemployment.

Two separate logit models are applied to estimate the effects of education at either stage. While the first step controls for waiting time after completion of initial education and training, the second step takes individuals' labour market position and contract situation into consideration. The labour market position distinguishes between jobs in the unskilled, skilled and the professional segment or in self-employment, drawing on information about the preceding job for those who are currently unemployed. The classification is based on EGP class position (Erikson/Goldthorpe, 1992; Brauns/Haun/Steinmann, 1997) and information about the employment sector. Details are given in the tables in Appendix A1. The contract situation considers temporary contracts in contrast to non-limited employment situations.

4 Unemployment at Labour Market Entry: an Overview

The resurgence of persistent unemployment has been a common European experience during the past two decades. In many respects, young people have been severely affected by the employment crises of the 1980s and 1990s: youth unemployment rates are regularly found to be substantially higher than those of the adult labour force (Layard et al. 1991; OECD 1996), the smoothness of labour market integration is often claimed to be strongly affected by prevailing structural conditions (e.g. Blossfeld 1989) and whether such difficulties at entering the labour market inflict permanent 'scars' on subsequent employment histories is a constant issue of intensive research and concern. However, many observers also argue that cross-national differences in youth unemployment are much more pronounced than among the adult work-force (cf. Layard et al. 1991), which could actually provide an indication of the effects of institutional arrangements of market entry operating. What can we tell about such differences in the level and structure of youth unemployment between France, the United Kingdom and West Germany on a descriptive level? As is apparent from the results presented in table 2 below, the overall picture is, in many respects, one of significant difference between the countries in terms of major aspects of unemployment patterns.

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[11] This also means that we include people at different stages in their early career in our sample, and that we are not able to disentangle cohort, period and age effects. But with the rather narrow observation window of up to seven years since leaving the ETS it seems reasonable to expect age effects to dominate.

Considering the results in more detail, the risk of unemployment is smallest in Germany, where unemployment rates were at 9% in 1982 and 6% in 1995. In contrast, unemployment rates were highest in France with some 23% unemployed at both points in time. The United Kingdom occupies an intermediate position: unemployment rates were 20% in 1984 and 18% in 1994. Youth unemployment has thus been a fairly substantial problem in both France and the United Kingdom throughout the last decade, while labour market entry has been considerably smoother in West Germany. Additionally, unemployment has been slightly more prevalent in both Germany and the UK under the economic recession of the 1980s than in the 1990s, while we observe similar levels of unemployment in France for both points in time (cf. also OECD 1996). Judged from the duration of current unemployment, it is not just the level of unemployment which differs between the countries but also the seriousness of market exclusion faced in the transition from education to work. Clearly, concerns for exclusion are appropriate at this early career stage as the evidence on extended periods of unemployment shows: summing the proportions of those long-term unemployed and those having returned to unemployment within the last year, between roughly one third of the unemployed in Germany (also assuming some 10% of recurrent unemployment) and up to half of the unemployed in the UK are facing serious problems in becoming integrated into the labour market. It is remarkable that even against a very favourable overall situation, the picture is especially favourable with respect to young Germans entering the labour market, for whom unemployment – if it occurs – tends to be shorter than in both France and the United Kingdom. In turn, the severity of early exclusion tends to be highest in the UK. Even with a slight convergence in these indicators over the last decade, these stylised facts hold for both the mid-1980s and the mid-1990s.

Apart from these differences in the level and severity of the youth unemployment problem, the simple breakdown of the situation before current unemployment reveals an interesting difference in the way unemployment risks occur in the early career. The distinction among the currently unemployed between labour force entrants and experienced young unemployed is helpful in this respect as it taps an important distinction which will be followed in more detail later. Specifically, it triggers the distinction between the two major components of unemployment in early labour market careers, namely *search for first employment* and *instability of initial employment contracts*. As is apparent from table 2, both components are important in the three countries: obviously, there is more to unemployment risk in early employment careers than just difficulties in locating a first job. In all countries, a significant proportion of experienced unemployed became unemployed after initial work involvement due to the instability of the initial employment found. Of course, the relative importance of either type of unemployment directly depends on the observation window chosen here, thus any interpretation at face-value has to be avoided. Nevertheless, from the estimates given in table 2, it seems that the relative importance of the search component increased over the last decade in the United Kingdom, while it decreased in France.

Table 2: Unemployment Patterns in the Transition from Education to Work

	France		Germany		United Kingdom	
	1984	1994	1982	1995	1984	1994
	%	%	%	%	%	%
Unemployment Rate	22,8	23,5	8,6	6,1	19,6	17,9
Long-Term Unemployment	33,7	29,7	15,6	22,5	46,2	40,0
Recurrent Unemployment	10,9	10,4	N/A	N/A	7,8	8,1
Reasons for current unemployment						
Labour Force Entrants	39,3	32,0	33,4	35,5	41,1	47,8
Given Up Self-Employment	0,6	0,5	0,7	0,9	2,9	3,4
Former Employees	60,1	67,5	65,9	63,6	56,0	48,8
- Thereof: Had Temporary Contract	53,8	65,5	N/A	24,7	20,7	14,1
N Unemployed	2.956	2.726	3.068	1.096	2.825	2.011

Notes on definitions applied:
Long-term unemployment defined as the fraction of current unemployment lasting 12 months or longer;
recurrent unemployment defined as the fraction among the currently unemployed whose unemployment lasts less than 12 months, but who were in unemployment 1 year ago as well; this figure could not be estimated from the German data due to lacking information on status one year ago;
reasons for current unemployment are exclusive, only the major alternatives are presented;
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

Investigating briefly the type of employment held by the experienced unemployed, however, leads to the recognition of a remarkable difference in the initial unstable employment experiences of youth in the three countries. In all countries, the role of self-employment in preceding the occurrence of current unemployment is negligible. A significant difference does emerge, however, among former employees. Here the major contrast is between France on the one hand and Britain and West Germany on the other. In comparative perspective, the very high percentage of 54% (1984) up to 66% (1994) of former employees in France who entered unemployment because of the termination of a prior temporary contract is unparalleled in the two other economies. It appears that this relates to the French system of *alternance* between participation in labour market programmes and open unemployment and the prevalence of fixed-term contracts at the stage of entry. To sum up, this short overview has provided some indication that youth unemployment differs between the three societies in many important respects: it derives from more than simple differences in the levels of unemployment, but there are also issues of differences in the severity of exclusion as well as with respect to the relative importance of search unemployment, initial employment experiences and the instability of initial employment. We will pursue some of the implications in subsequent analyses. As an intermediate step, we will proceed to present comparative results on educational differentials in unemployment risks.

5 Unemployment Risks and Education

The core assumption underlying our study is that the incidence of unemployment is highly related to individuals' educational achievement. In most countries, this is a firmly established empirical regularity (specifically for the case of youth unemployment see e.g. Franz et al. 1997; Handl 1996; Helberger et. al. 1994; Winkelmann 1996; Ashton/Sung 1992; Bynner/Roberts 1991; Evans/Heinz 1994; Ruiz-Quintanilla/Claes 1996). In our study, the focus of interest will therefore be on *how* education affects the incidence of unemployment in the initial labour market years and on the *similarities and differences* in this respect between the countries. Furthermore, we explore how educational differentials in unemployment risks have evolved over the last decade. In the presentation of our findings, we will focus first on current differences between the countries, while the issue of trends in differentials will be taken up afterwards.

As a starting point for our analyses, figure 1 below provides evidence on the educational stratification of unemployment risks in the three countries. The figure presents empirical results in terms of both the qualification specific unemployment rates and the relative advantages provided by different types of education with respect to the incidence of unemployment. Absolute unemployment rates are shown in the panels on the left, while results on the competitive advantages provided by qualifications are presented in the panels on the right. The latter are given in terms of reciprocal odds ratios of unemployment incidence among different educational groups as compared to risks of those with compulsory education only. That is, the higher the effects shown, the smaller the relative risk of unemployment among leavers with a certain educational background as compared to the lowest qualified. These estimates are derived from logistic regression models which only include education and a gender main effect (cf. Appendix A2).[12]

The analyses reveal both cross-national similarities and dissimilarities. The *commonalities* between the three societies refer to five aspects of the observed stratification patterns: (1) the occurrence of *very high unemployment rates for the least qualified* labour market entrants, (2) *substantially lower unemployment rates for tertiary-level graduates*, (3) the *relative advantages provided by tertiary education* within the different education and training systems, (4) an *inverse, although not necessarily linear relation between the level of general education and unemployment risks*, and (5) the *role of general versus vocational qualifications* at the different stages of secondary education.

The high unemployment rates faced by the least qualified leavers (CASMIN 1ab) compared to fairly low unemployment rates among tertiary level leavers (CASMIN 3a, 3b) are apparent from figure 1.

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[12] The figures present estimates in terms of relative advantages provided by different levels and types of education. To provide a reading example: the figures give the relative advantage in terms of unemployment risks as compared to the lowest qualified. That is, unemployment risks of French university graduates (CASMIN 3b) are roughly 7 times less than those of the lowest qualified (CASMIN 1ab). The figures can be gained by inverting the exponentiated logit coefficients from Appendix A2.

The qualificational breakdown of youth unemployment rates reveals – given the results presented in table 2 above – a rather unexpected cross-national similarity: across countries, there is only small variation in unemployment rates among both the least qualified (between some 33% in Germany and 45% in France) and tertiary-level graduates (around 5%, except some 10% in France). This also implies similar relative returns to tertiary education in terms of unemployment risks: in all three countries, higher education graduates incur seven to eight times lower unemployment risks as compared to the least qualified market entrants. In other words, the competitive advantages provided by higher education are both pervasive and fairly similar in the three European societies.

Moreover, our results confirm a first hypothesis outlined in the introduction: level of education and vocational specificity of the degree matters. Firstly, the results clearly show an *inverse relationship between the level of general education achieved and the relative risks of unemployment* in all three societies (cf. hypothesis H1). Having obtained intermediate secondary education (CASMIN 2b) rather than only compulsory education (CASMIN 1ab), and obtaining full secondary education (CASMIN 2c) rather than intermediate secondary education, and, finally, obtaining a tertiary degree (CASMIN 3a, 3b) rather than secondary education only, respectively imply a reduction of unemployment risks. The extent of these relative advantages is also similar rather than disparate across countries. Secondly,. we also observe that *participation in vocational training at the secondary level* (CASMIN 1c, 2a, 2c voc) *pays off in almost all cases in terms of lower unemployment risks* as compared to general education at the same level of qualification (CASMIN 1ab, 2b, 2c; cf. hypothesis H1).

Nevertheless, this short discussion of similarities glosses over two *crucial and related differences in the extent and pattern of stratification*. These differences relate to both the extent of competitive advantage provided by different credentials as well as to the more detailed pattern of advantages, especially in the case of vocational training at the secondary level. To treat the *extent of educational stratification* first, we calculated a very rough indicator of the inequality of unemployment risks between educational groups. This simple additive measure for deviation from a uniform distribution of unemployment risks is given in the graphs and indicates the strongest stratification of unemployment risks in Germany.[13] The British and especially the French distributions appear much less stratified by education, although substantial differentials are still apparent.

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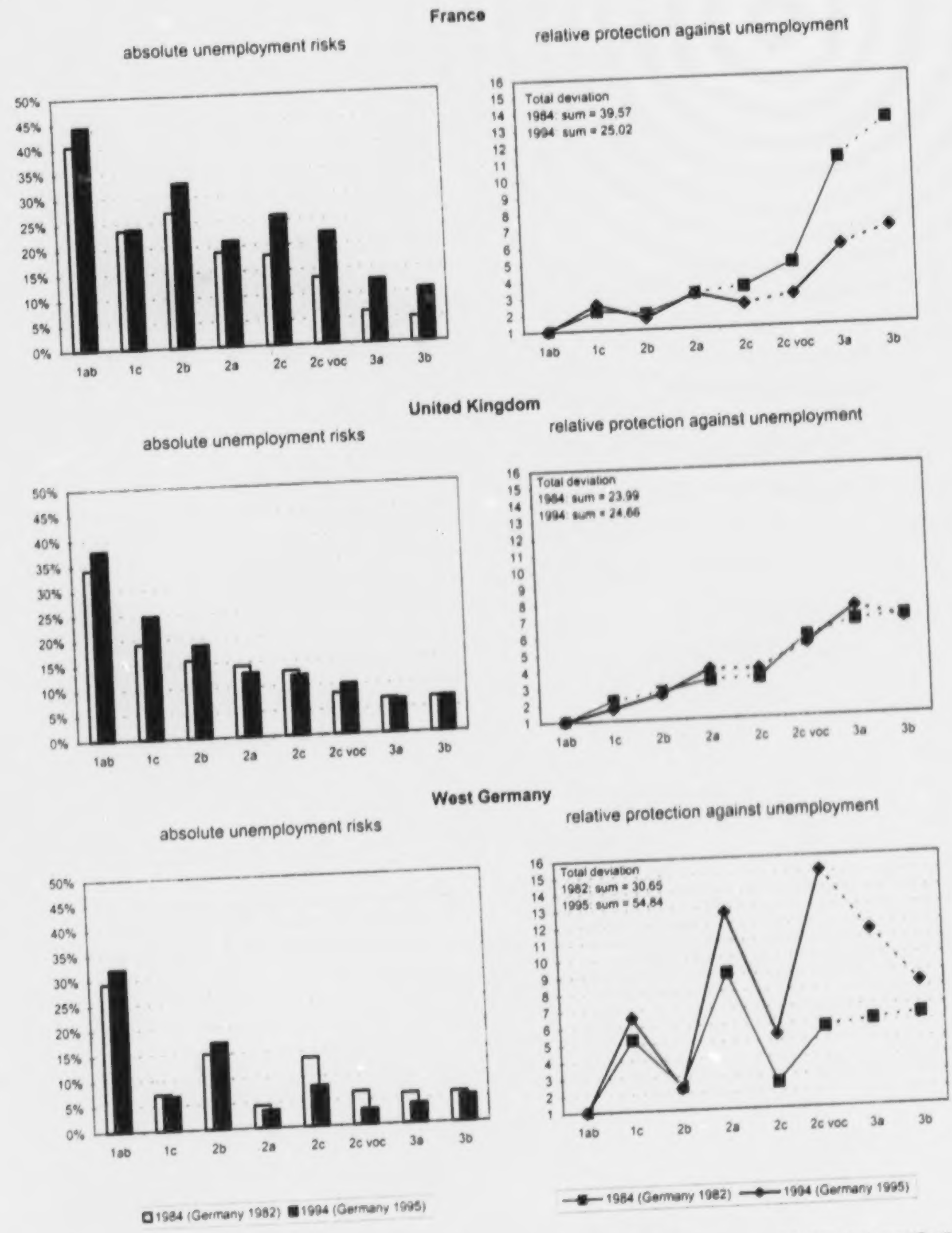
[13] This indicator is calculated from estimated odds ratios of unemployment for all educational groups relative to CASMIN 1ab. The total deviation is given by $\Sigma[\mathrm{ori} - 1]$, with $\mathrm{ori} = eb$ for $b > 0$, and $\mathrm{ori} = (eb)-1$ for $b < 0$, across educational groups CASMIN 1c to CASMIN 3b

Figure 1: Unemployment Risks and Educational Qualifications



Notes:
Relative effects of education are expressed as reciprocal effect parameter estimates compared to CASMIN 1ab qualifications; see Appendix 1 for details on logit models; dotted lines indicate insignificant marginal effect changes
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

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Moreover, the overall *patterns of educational stratification* are very different across countries once attention is paid to the differences in the value of secondary level vocational training (cf. hypotheses H3, H4). To take the *British pattern* as a starting point, we observe an *almost linear relation between qualifications and unemployment risks.* This pattern reflects a straightforward valuation of the level of education attained: both, each additional stage of qualification and each vocational specialization within educational stages significantly reduces the unemployment risks of young people. The British pattern contrasts very clearly with the pictures obtained in both other cases. In the *French case* we basically observe a *three-layered stratification by educational level*: high unemployment risks for those with only compulsory education, intermediate relative risks for leavers from secondary education (with some advantages to vocational qualifications), and lowest risks for tertiary education graduates.[14] Indeed, a substantial decrease of unemployment risks with the achievement of academic education seems to be a characteristic of the French situation. Still, there is a much more striking contrast between those latter countries and the German pattern of stratification: unemployment risks in *Germany* appear to be *polarised between those having obtained general secondary qualifications only and those who passed either vocational training or academic education.* Unemployment risks for the latter groups are fairly low, while the former face substantial unemployment risks. That is, unemployment risks are hardly stratified according to the level of education achieved but rather by the distinction between vocationally specific education and training versus general secondary education only. Essentially, leavers from vocational training tracks at the secondary level in Germany face similar low or in some cases even lower unemployment risks than university leavers. This finding is unparalleled by the patterns in both Britain and France. Indeed, it seems fair to conclude that countries differ most with respect to the effectiveness of vocational training (hypotheses H3, H4). This holds both on the lower CASMIN 1c (with the British system providing the least returns) and on CASMIN 2a and 2c voc level (with the French leavers having the relatively least advantageous position across countries).

Changes over Time

Figure 1 also provides visual evidence of changes in the educational stratification of unemployment risks over the last decade. Across countries, no secular trend with regard to changes in the relationship between education and unemployment over time is apparent. Rather, we find significant national variation in terms of change over time. The British pattern of stratification has remained relatively stable between the mid-1980s and the mid-1990s. For France and Germany, opposite trends are observable: While the educational stratification of youth unemployment has clearly declined in France, it has become more polarised in Germany.

Changes over time are most significant *on the upper secondary and tertiary level of the education and training system.* While the relative returns to upper secondary- and tertiary-level certificates have clearly declined in France, they have increased in Germany. In France in 1980, the *baccalaureat* implied substantial advantages over other secondary level qualifications, general and vocational. Also, the benefits pertaining to tertiary-level degrees were much higher than in the mid-1990s. In Germany in 1980, on the contrary, graduating from the tertiary education or completion of apprenticeship training following at least a *Mittlere Reife* qualification (CASMIN 2a/b level) held fewer competitive advantages over other school-leavers than ten years later. It seems as if, beyond achievement of a vocational qualification, achieving at least the secondary intermediate level of education has gained in importance over time. Summarising the evidence, we thus find distinctive trends in the educational stratification of unemployment, apart from the cross-country differences in patterns themselves: increased polarisation in the German case, continuity in the United Kingdom, and a substantial levelling out of competitive advantages pertaining to higher quality degrees in France.

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[14] Although there is additional variation between different qualifications on the CASMIN 1c - CASMIN 2c voc level that conforms to the above description of similarities between the countries, it seems fair to draw this conclusion because of the - in comparative perspective - very slight 'value added' of achieving baccalaureat qualifications (CASMIN 2c and 2c voc) with respect to unemployment risks.

6 Education and Unemployment in Labour Market Entry Processes

As the final step in our analyses, we now explore the nature of educational effects during labour market entry processes in more detail. Therefore, we distinguish between two stages within the transition period: first, the *search for initial employment* after leaving education and training and second, the *early career stage* after initial employment experience. We thus decompose unemployment risks in the transition from education to work into two aspects, namely *access to first employment and instability of initial employment*. The rationale favouring this setup is that it will allow an investigation of different aspects of educational effects in the transition process: unemployment may result from an inability to access employment *or* instability of initial employment itself, with the decomposition enabling us to investigate different educational effects in either stage. The technical setup of this model has been detailed in section 3 above; estimation results are given in tabular form in table 3 below. Figures 2 and 3 presented below provide graphical information on core results in terms of the marginal effects of education. Results for this sequential model will be discussed in the following, naturally focusing on the effects of qualifications.

First Entry into the Labour Market

The first stage of our sequence model describes the smoothness of labour market entry: we predict the probability of ever having had a job dependent on gender, education and time since leaving education and training. Essentially, it is the two latter effects that are of key interest at this stage, namely the nature of educational advantages and the waiting time involved in accessing the first job. The educational effects of course describe the nature of *educational stratification* in finding one's first job, while the time effects allow for an assessment of the *immediacy of market entry* in terms of waiting time until initial employment. From both the tabular and the graphical display of respective results (cf. the lower part of table 3, respectively the left and middle panel of figure 2), two country patterns emerge at this stage of the model: in terms of the stratification pattern of market entry, France and the United Kingdom appear broadly similar, while the German pattern is markedly different (see hypotheses H3 and H4).

In Germany, labour market entry is found to occur fairly quickly and smoothly after completion of initial education and training. Effects of time since leaving the education and training system on the probability of accessing a first job are hardly discernible. That is, young people just one year out of education and training are as likely to have found their first job as their older counterparts. This feature comes with a strong educational stratification of labour market entry, however. Again, the educational effects follow the by now well-known polarised pattern: leavers from vocational training tracks on secondary level (CASMIN 1c, 2a, 2c voc) and tertiary level graduates (CASMIN 3a, 3b) hardly face any problems in immediate labour market integration. In contrast, leavers having obtained general secondary education certificates only (CASMIN 1ab, 2b, 2c), experience substantial entry problems. In summary, problems of access to employment are very much confined to the least qualified in Germany, while there is no exclusion of the most recent entrants.

Contrasted with the German pattern, success in finding a first job in France and the United Kingdom first of all appears to be much more related to search time. In addition to time effects, educational stratification is also present, although the patterns are less polar and suggest different rankings of qualifications. The strong effects of time since leaving education and training provide some evidence for significantly less smooth initial transitions. In their first and second year in the labour market, a substantial proportion of the British and French entrants are still looking for their first job. In contrast to the German case, the probability of finding a first job is strongly related to and increasing with (fairly lengthy) spans of time. In that sense, the process of labour market integration is much more gradual in these economies than in Germany (cf. hypothesis H4). On the other hand, this process is less excessively structured and polarised by educational qualifications: it is self-evident from the French and British patterns that education does provide competitive advantages in accessing a first job, yet the patterns of stratification appear quite different. In both cases, it is much more the level of education that pays off in terms of a smooth transition into the first job than in Germany. Following an educational career, almost each additional qualification entails a higher entry probability in Britain and France. This contrasts very sharply with the German pattern, where leavers from apprenticeship tracks fare slightly better than university graduates in the transition from education to work (cf. hypothesis H3).

Acquisition of Positional Resources and their Effects

Once employment has been located, unemployment risks in the subsequent career are subject to both an indirect and a direct effect of education. Unemployment risks clearly depend upon education in the sense that education is continuously being used as a screening device to discriminate between individuals in the case of dismissal and recruitment. On the other hand, the risk of unemployment is also related to the type of job position one holds. The more stable and long-term one's current contract, the smaller medium-term unemployment risks are to be expected. Insofar as education is linked to issues of access to stable positions, this reconversion of education into job positions yields an indirect effect of qualifications on unemployment risks. This nexus between educational qualifications and job quality as well as the impact of different institutional contexts have been extensively discussed and reasonably well established in comparative research (e.g. Müller/Shavit 1998; Brauns/Müller/Steinmann 1997; Kerckhoff, forthcoming among others). And although we do not explicitly model this aspect in the current model, we clearly observe its consequences. Educational effects in the second stage of our sequence model indeed decline once positional information in terms of segment position and type of contract are included in the equation.

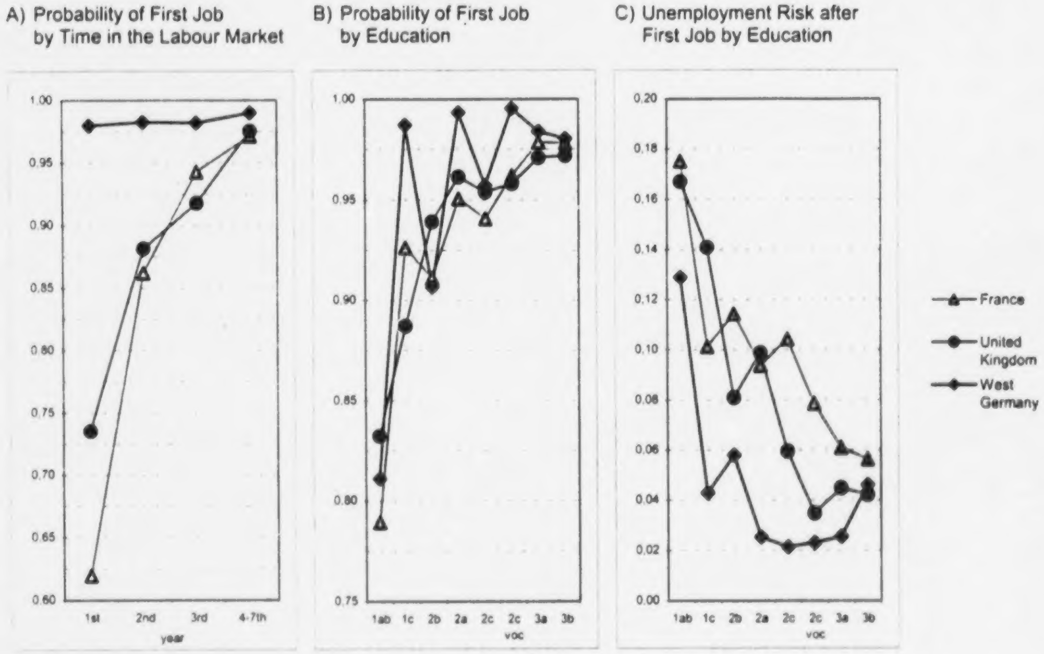
Table 3: Search and Instability in the Labour Market Entry Process, Sequential Logit Estimation

	France		United Kingdom		West Germany	
	1984	1994	1984	1994	1982	1995
Unemployment Risk after First Job						
Women	0,05 (.06) $^{n.s.}$	-0,06 (.06) $^{n.s.}$	-0,22 (.06)	-0,49 (.07)	0,12 (.07) $^{n.s.}$	-0,14 (.09) $^{n.s.}$
Educational Qualifications						
- CASMIN 1c	-0,60 (.08)	-0,63 (.09)	-0,32 (.14)	-0,20 (.11)	-0,67 (.09)	-1,19 (.14)
- CASMIN 2b	-0,43 (.10)	-0,49 (.12)	-0,63 (.08)	-0,60 (.10)	-0,79 (.17)	-0,88 (.24)
- CASMIN 2a	-0,74 (.09)	-0,72 (.09)	-0,46 (.11)	-0,82 (.12)	-1,12 (.12)	-1,74 (.15)
- CASMIN 2c	-0,81 (.13)	-0,60 (.13)	-1,01 (.14)	-1,15 (.16)	-1,14 (.22)	-1,91 (.29)
- CASMIN 2c voc	-1,21 (.14)	-0,91 (.11)	-0,96 (.22)	-1,71 (.24)	-0,59 (.16)	-1,84 (.19)
- CASMIN 3a	-1,71 (.17)	-1,19 (.11)	-0,98 (.23)	-1,45 (.21)	-0,82 (.24)	-1,73 (.26)
- CASMIN 3b	-1,91 (.20)	-1,27 (.13)	-1,15 (.17)	-1,51 (.16)	-0,57 (.21)	-1,12 (.21)
Job Position Attained						
- Professional Employment	-0,63 (.12)	-0,26 (.10)	-1,15 (.14)	-1,01 (.13)	-1,22 (.16)	-0,86 (.16)
- Skilled Employment	-0,36 (.06)	-0,02 (.06) $^{n.s.}$	-0,42 (.07)	-0,54 (.08)	-0,42 (.08)	-0,29 (.10)
- Self-employment	-1,75 (.27)	-1,69 (.33)	-0,67 (.15)	-0,47 (.15)	-1,63 (.29)	-1,20 (.34)
Temporary Job	2,08 (.06)	1,91 (.06)	0,91 (.09)	0,23 (.11)	N/A	-0,20 (.11) $^{n.s.}$
Intercept	-1,46 (.06)	-1,51 (.07)	-1,42 (.06)	-0,93 (.08)	-2,18 (.09)	-1,42 (.12)
N	12.725	11.472	12.642	10.095	32.809	17.355
Log-Likelihood H_0	-5.325,34	-5.184,90	-3.996,03	-3.158,04	-5.405,62	-2.736,90
Log-Likelihood H_1	-4.282,28	-4.294,93	-3.714,30	-2.884,41	-5.224,32	-2.605,48
Likelihood Ratio Test / G^2	2.086,12 (12)	1.779,95 (12)	563,46 (12)	547,26 (12)	362,60 (11)	262,84 (12)
R^2_{ML}	0,15	0,14	0,04	0,05	0,01	0,02
BIC'	-1.972,70	-1.667,77	-450,12	-436,62	-248,22	-145,70
Attainment of First Job						
Women	-0,69 (.06)	-0,23 (.07)	0,45 (.06)	0,67 (.08)	-0,26 (.12)	-0,33 (.11)
Educational Qualifications						
- CASMIN 1c	1,07 (.08)	1,21 (.10)	0,83 (.15)	0,46 (.11)	3,60 (.24)	2,89 (.19)
- CASMIN 2b	0,93 (.10)	1,00 (.12)	0,99 (.07)	1,13 (.11)	0,63 (.20)	0,82 (.20)
- CASMIN 2a	1,56 (.10)	1,63 (.11)	1,55 (.14)	1,61 (.15)	4,09 (.20)	3,56 (.19)
- CASMIN 2c	1,38 (.12)	1,44 (.15)	1,10 (.11)	1,43 (.14)	0,72 (.13)	1,64 (.22)
- CASMIN 2c voc	1,88 (.15)	1,91 (.12)	1,97 (.27)	1,52 (.18)	3,09 (.29)	3,91 (.31)
- CASMIN 3a	2,46 (.16)	2,50 (.14)	1,92 (.25)	1,90 (.21)	2,04 (.22)	2,66 (.25)
- CASMIN 3b	2,42 (.17)	2,48 (.14)	1,81 (.14)	1,94 (.13)	2,07 (.16)	2,45 (.20)
Time in the labour market						
- First year	-2,22 (.07)	-3,04 (.05)	-1,19 (.07)	-2,66 (.09)	-1,40 (.15)	-0,71 (.19)
- Second year	-1,51 (.08)	-1,70 (.06)	-0,14 (.09) $^{n.s.}$	-1,67 (.11)	-0,76 (.24)	-0,56 (.19)
- Third year	-0,72 (.09)	-0,73 (.07)	-0,04 (.10) $^{n.s.}$	-1,27 (.12)	0,81 (.23)	-0,60 (.15)
Intercept	2,28 (.06)	2,16 (.05)	1,59 (.05)	2,21 (.09)	2,59 (.24)	1,83 (.11)
N	14.414	12.867	14.269	11.178	34.576	18.001
Log-Likelihood H_0	-5.207,26	-4.415,86	-4.706,57	-3.430,07	-4.254,44	-1.784,15
Log-Likelihood H_1	-4.256,66	-3.276,80	-4.245,62	-2.728,59	-3.203,61	-1.522,05
Likelihood Ratio Test / G^2	1.901,20 (11)	2.278,11 (11)	921,89 (11)	1.402,95 (11)	2.101,66 (11)	524,20 (11)
R^2_{ML}	0,12	0,16	0,06	0,12	0,06	0,03
BIC'	-1.795,86	-2.174,03	-816,67	-1.300,41	-1.986,70	-416,42

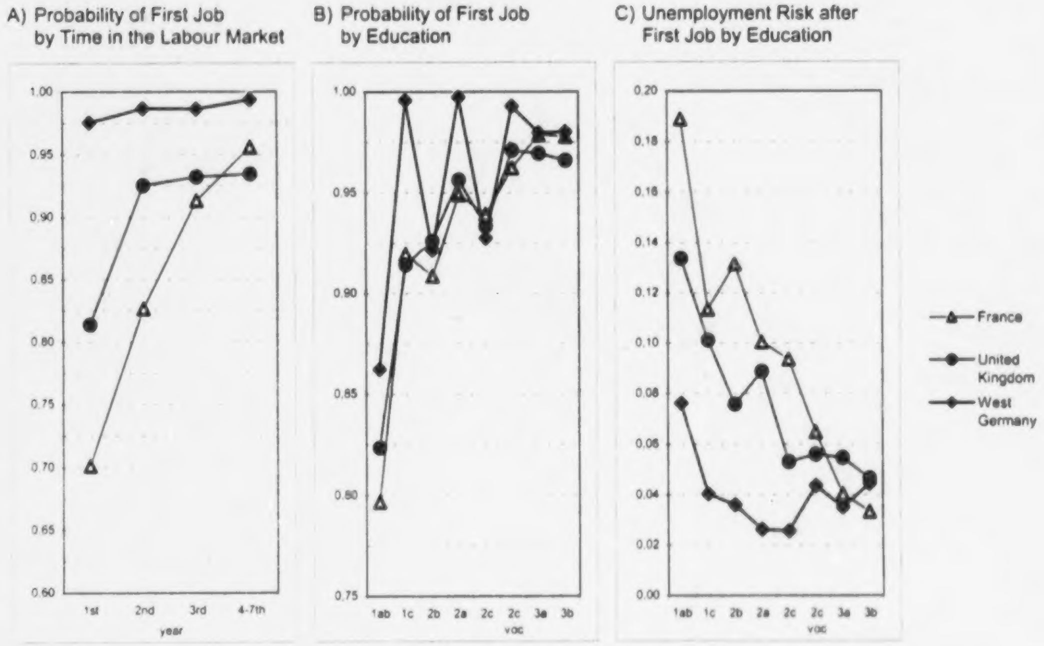
Notes:
Model on Attainment of first job temporally precedes model on unemployment risks after first job; the latter model includes only the subsample of experienced individuals;
Standard errors in parantheses; *n.s.* signifies statistical significance at $p > .05$;
Reference categories are: CASMIN 1ab for education; unskilled employment for job position attained and fourth year or later in case of time in the labour market;
Sources: Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
entrants into the labour force, unweighted results

Figure 2: Educational Effects on Unemployment, Sequential Logit Model Estimates

MID-1990s



MID-1980s



Notes:
Figures show dummy variable discrete change effects calculated at the means of all other independent variables from sequential logit model estimates; see table 3 for tabular display
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994; Entrants into the labour force, unweighted results

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As the focus of the current paper is on the direct effects of education, however, we restrict ourselves to a very brief discussion of the effects of employment positions attained (cf. the upper half of table 3). Broadly speaking, professional and skilled workers' positions as well as self-employment usually imply lower unemployment risks as compared to unskilled employment. The advantages provided by skilled employment are generally lower than those of professional positions or self-employment. Individuals employed on the basis of temporary contracts incur higher unemployment risks than those employed on permanent contracts, although this disadvantage has declined over the last decade. While the German and British patterns of effects are fairly similar with respect to the role of positional resources, it is the French pattern that clearly diverges this time. Two aspects of the French pattern seem remarkable: first, temporary contract positions in France hold great disadvantage in terms of unemployment risks as compared to both Britain and Germany, while the countries appear broadly similar as far as unemployment risks for individuals in permanent positions are concerned. Second, the competitive advantages provided by professional and skilled employee positions are lowest among the three countries, and this appears as a consequence of changes over the last decade.

Screening Effects after the Attainment of the First Job

However, even after an initial conversion of educational qualifications into job positions has occurred, we find evidence of significant effects of education on unemployment risks in the early labour market career (cf. the upper half of table 3; hypotheses H2, H5). As has been detailed above, one would also expect continued effects of education since education may be said to maintain its usefulness in the evaluation of workers over an employment career. Essentially, the estimates of educational effects in the second stage of the labour market career reconfirm the observations made so far. Here, again we find evidence of two major distinct patterns of educational stratification of unemployment risks and additional slight differences between France and the UK (cf. the panels on the right hand side of figures 2 and 3; hypothesis H5). For France and the United Kingdom, the patterns closely resemble the patterns already identified in section 5 above: an inverse, almost linear relation between level of qualification and unemployment, with the French pattern exhibiting more of a three-layered differentiation between individuals having obtained compulsory education only, those having completed secondary qualifications and, particularly advantaged, tertiary-level graduates. The interesting case is Germany again, where educational differentials apart from the contrast of CASMIN 1ab versus all other qualifications are simply non-existent in terms of job instability - once initial employment has been found (cf. hypothesis H5). This finding is, of course, in stark contrast to our earlier results of strong stratification for the transition period in general and especially with respect to initial search in the market. Some qualifying remarks are necessary, however, both for details of the relative positions of single qualifications and on the interaction between the two stages of our model.

One appealing feature of the model estimated here is the possibility of assessing reinforcing versus counteracting effects of qualifications over the different stages of the transition process. That is, we are able to establish the extent to which those qualifications providing for smooth first-time entry also imply relatively stable positions afterwards or whether certain trade-offs exist here. From a comparison of educational effects at either stage of the model (cf. the middle and right panels of figures 3 and 4), the general conclusion is that (dis)advantages pertaining to qualifications tend to be reinforced in the course of the labour market entry process. In almost all cases, those qualifications that provide smooth entry also provide lower unemployment risks afterwards. Broadly speaking, there is only one exception to this rule, namely the case of intermediary secondary-level qualifications (CASMIN 2a/2b) in Britain. This is the only major case where slightly different patterns are apparent: in the second stage of the model, where leavers with vocational qualifications from the CASMIN 2a level clearly face a disadvantaged position as compared to the general O-level type (CASMIN 2b) qualifications. In fact, this is the only case where general education qualifications go together with higher employment stability as compared to their vocational counterparts on the same level of education.

Breaking down unemployment risks into a job search and a job instability component, moreover, sheds some light on the actual processes underlying the observed overall educational stratification of youth unemployment as described in section 5 above. Trying to summarise our comparative findings, it is probably fair to conclude that two basic patterns of educational effects are apparent: the contrast between Germany on the one hand, and France and the UK on the other. Taking the latter countries first, substantial educational differentials are apparent for both stages of our model – in addition to, and above, controlling for positional resources and other factors. That is, the overall educational stratification is a product of reinforcing (dis)advantages in terms of both access to employment and the stability of employment in the early career. And although the type of employment is related to subsequent unemployment risk, educational effects continue to operate and qualifications retain their comparative advantages. Of course, there are additional differences between France and Britain, which we would argue are deviations from a common pattern. The most striking of these is the role played by temporary contracts (partially including work experience contracts) in unemployment risks. While unemployment risks for individuals in temporary contract positions are slightly higher in the UK, French youth in this type of employment face dramatically higher risks of unemployment. Certainly, the French youth labour market is characterised by substantial volatility and instability partially linked to the excessive use of temporary work experience schemes.[15]

Compared to these two countries, the situation is fundamentally different in West Germany. Here, the very strong overall qualificational stratification of unemployment is only partially reproduced by the sequential model. Strong educational differentials in line with the overall pattern are apparent for the search stage, yet the educational stratification of employment instability is very weak. In the second stage of our model, we only found a small contrast between the least qualified and all other leaver groups, with no sign of further differentiation. How do these findings relate to the overall stratification pattern observed? One might argue that the very strong stratification observed results from a very strong qualificational stratification of attainment of first job – which, moreover, is clearly linked only to qualifications without the effect of time since entry (cf. hypothesis H3). Given the substantial importance of experienced unemployed also in the German sample, this explanation nevertheless seems only partially convincing. It appears insufficient to account for the lack of educational stratification of exclusion after attaining first job. One possible explanation, consistent with earlier studies and aspects of our findings, centers on the close match between qualifications and initial employment in the German labour market. If instability is a function of the type of employment and qualifications allow for a clear matching to employment positions, then a remaining single influence of job characteristics may be expected in the regressions. As convincing as this may sound, empirical support is only partially indicative of this. Clearly, educational effects are very low and even level out further once positional controls are introduced. However, as judged from the goodness-of-fit indices provided, the positional controls introduced do not appear to capture much variation in unemployment risks themselves. Of course, this can be related both to the invalidity of the tenet suggested or the crudeness of the indicators adopted. Further research on this point is obviously needed.

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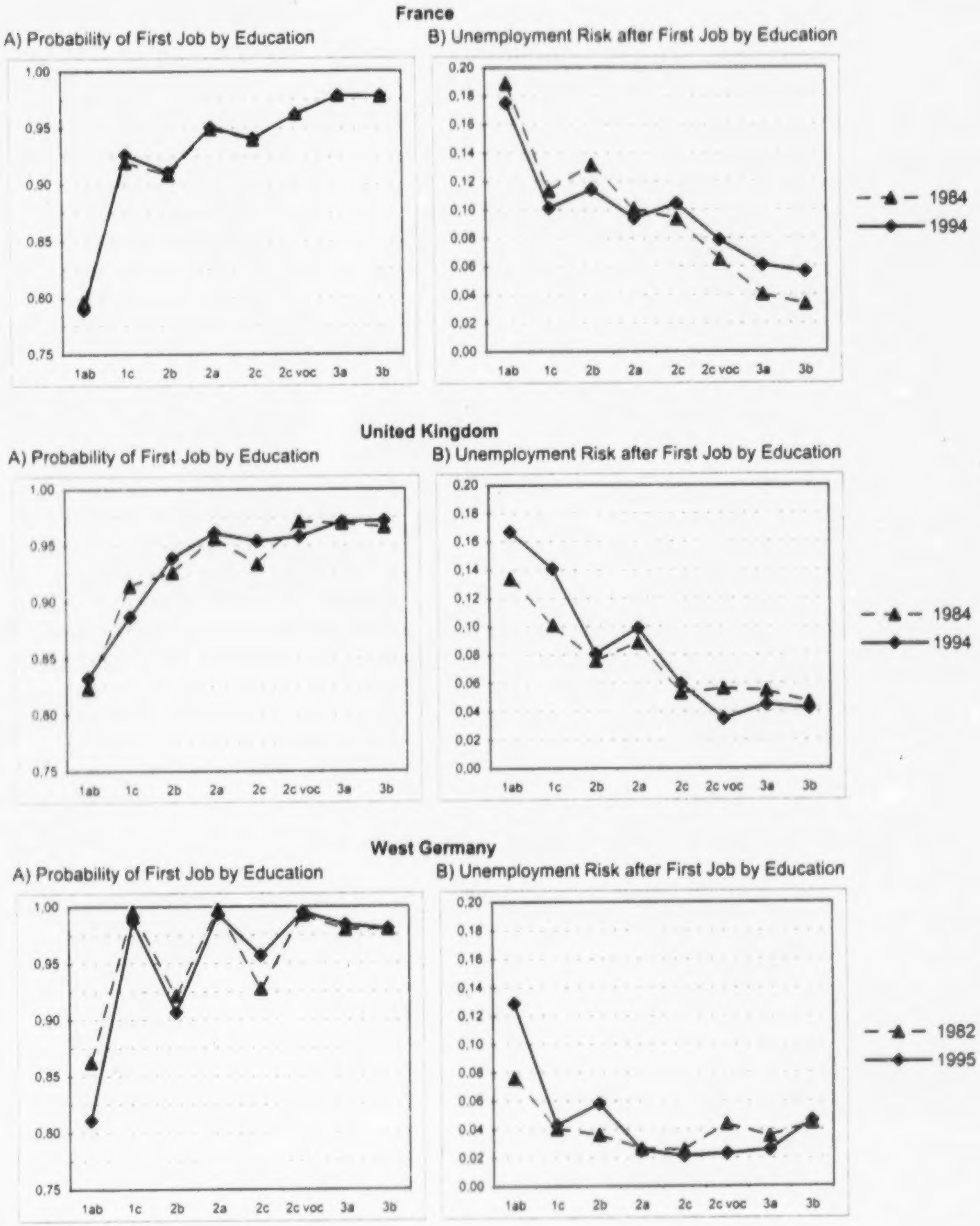
[15] Certainly, we cannot claim a causal treatment effect of fixed-term contracts for France from our analyses: we can, however, state that fixed-term contracts in France are subject to extraordinarily high risks of subsequent unemployment as compared to small effects in both the UK and West Germany – irrespective of this being related to a causal effect or the result of sharp selectivity.

Changes in Educational Effects over Time

In comparing our results for the mid-1990s to those established for the mid-1980s, we are additionally able to establish evidence for changes over time in educational effects on unemployment processes. With respect to the first step of finding first employment, we observe hardly any changes in the educational effects for any of the three countries. Interestingly, the time effects change in the French and British cases, but not in the German case: specifically, there are marked increases in the negative effects of the very first year in the market. Thus, on average, it seemingly became more difficult to immediately locate initial employment in these two countries in the 1990s. Somewhat stronger changes over time are, however, apparent for the second stage of our sequential model. It is evident that the strong country differences in the patterns of educational stratification observed for the 1990s are partly due to divergent patterns of changes over the last decade. Changes in the educational distribution of unemployment risks in the early career took place in all three countries. Yet, the pattern of change differs between the countries: in France, for once, we establish an increase in unemployment risks biased towards higher level qualifications. The contrasting case is evident for Germany, where unemployment risks only increased substantially for the least qualified with lower and intermediate general secondary qualifications. For labour market entrants holding occupational qualifications, the situation remained basically unchanged, leavers from CASMIN 2c voc and 3a even face lower unemployment risks in the 1990s. The United Kingdom, finally, probably shows the most interesting pattern in this respect. As in Germany, unemployment risks also declined for higher education leavers, while they increased for the lower level qualifications. However, it was not only the least qualified with compulsory education who faced increasing unemployment risks, but rather those obtaining slightly more demanding qualifications on CASMIN 1c and 2b level.

Figure 3: Trends in the Educational Stratification of Unemployment, Sequential Logit Model Estimates



Notes:
Figures show dummy variable discrete change effects calculated at the means of all other independent variables from sequential logit model estimates; see table 3 for tabular display
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

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7 Summary

In this paper, we have examined the on education and unemployment risks of school-leavers' early labour market careers. The main objective was to explore how young people's risk of unemployment is related to educational achievement, and the way in which this relationship is shaped by the institutional embeddedness of the educational and employment system. For this reason, a comparative perspective was applied to Germany, France and the United Kingdom, three countries that differ considerably in the characteristics of their national educational systems and in the organisation of their labour markets. Moreover, an historical perspective on each of the three countries was adopted to get some idea of trends in the educational stratification of unemployment risks over the past decade.

A first global glance at youth unemployment in the three countries reveals some substantial differences in overall levels of unemployment, reasons for exposure to unemployment as well as in the pervasiveness of long-term unemployment, search-unemployment upon leaving school and the instability of early careers. These cross-national differences tend to be fairly stable from the mid-1980s to the mid-1990s. Beyond these global differences, the three countries share a basic similarity: a distinctive educational stratification of unemployment risks.

Our analyses show that young people's risk of unemployment is strongly related to their educational (non-)achievement in all three countries. Unemployment rates are typically highest among school-leavers with compulsory education only and lowest among graduates from higher education. Despite substantial cross-country differences in national unemployment rates, the absolute rates faced by the lowest and the highest qualified school-leavers, are fairly similar. This implies that in all three countries, tertiary education provides significant advantages, and compulsory education major disadvantages with respect to labour market integration. Also, we observe benefits pertaining to vocational qualification: in all countries, vocational qualifications significantly reduce the likelihood of unemployment as compared to having only general education at the same level. Overall, our findings support our hypothesis H1 outlined in section 2: employers tend to reward two facets of educational achievement: the hierarchical level of education reached and the vocational specificity of one's education.

We have also argued that employers use more than just educational screening to select among young people, and that the extent to which educational resources make a difference should depend upon young peoples' career stage. More precisely, it was suggested that the differentiating impact of formal education should be particularly strong when young people are about to enter the labour market ("get in the door") after leaving school. This effect should be smaller as soon as they have succeeded in finding employment. When entering the labour market, school leavers should to some degree be able to transform their educational resources into positional resources (occupational position, type of contract etc.) which more or less protect them against the risk of becoming unemployed. At the same time, their performance on the job provides employers with reliable indicators of their productivity which can be used to screen employees should staff cuts be necessary, rather than drawing on education as an indirect measure of their ability. The empirical analysis in section 6 supports our hypothesis H2: the educational stratification of unemployment risks is indeed particularly strong at labour market entry, that is with respect to search-unemployment immediately after leaving school. Still, educational achievement continues to matter after initial hiring into the labour force has taken place, particularly in terms of one's chances of a stable career. As we argue in section 2, that this may occur because reliable information about individuals' productive capabilities emerges slowly with time in the job, so that employers still see formal education as an important screening device when decisions about staff cuts must be made. Also, employers tend to reward credentials as a matter of firm policy and for their social value.

Thurow's labour queue model also suggests that the *precise* shape of the labour queue depends upon employers' preferences. Employers, in turn, are embedded in a specific institutional environment of the organisation of labour markets and human resources endowed with certain qualifications and skills that are made available by the national educational system. This environment considerably shapes their preferences for certain credentials over others. Besides the commonalties in the educational stratification of unemployment risks that have been outlined, our analyses confirm considerable cross-national dissimilarity, in particular between Germany on the one side, and France and the UK on the other side, that seem to be linked to particularities of national institutions. Basically, the countries differ in the overall extent to which education makes a difference, and – closely related to that - in the precise way in which unemployment risks are stratified by education, that is in the degree to which each of the two facets of educational achievement, level of general education or vocational specificity, are valued. Relying on a rough indicator of the extent of inequality among the various educational groups, we find that the strongest stratification of unemployment risks according to education prevails in Germany. This finding can be put down to the sharp skill-divide between vocationally qualified and vocationally unqualified school-leavers: this confirms our hypothesis H3: in the German occupational labour market, vocational qualifications provide a clear advantage over having only general education at every level. Vocationally qualified school-leavers profit from a smooth, that is transition into employment immediately after completing their training. Moreover, they seem to benefit from job allocations which provide them with quite substantial security of employment during their early career. The opposite side to the employment security offered to vocationally qualified school-leavers in occupational labour markets, is the way in which unqualified school-leavers are excluded from the labour market.

As expected in hypothesis H4, in France and the UK exposure to unemployment is less rigidly stratified according to educational achievement. The role of education in these countries is different to the situation in Germany. Due to the prevalence of firm-internal rather than occupational labour markets, there is no such polarisation of unemployment chances according to the achievement of vocational qualifications as in Germany. Yet, compared to Germany, the level of education reached in the school system turns out to be a relatively more important signal for securing employment.

This occurs along with a generally less smooth transition into the employment system in the United Kingdom and France and, in terms of young people's chances of continued employment following entry into the labour market, formal education is quite a differentiating resource. Hence, our analysis also confirms hypothesis H5: we find much weaker direct effects of formal education on young people's chances of persisting in the labour market, once an entry has taken place, in Germany than in the UK and France. In Germany, tight selection at entry into the occupationally structured labour market implies a smooth and, in terms of job allocation, "structured" transition into the employment system for those who are endowed with the critical entry tickets. Once these school leavers enter the closed system, they are able to convert their educational resources into a (more or less) beneficial labour market position whose attributes largely determine chances of continued employment. By contrast, less rigid hiring practices in France and the UK imply that transition into employment upon completion of schooling is typically less "structured" in terms of an institutionalised "correspondence" of educational and occupational entitlement at labour market entry (see Shavit/Müller 1998). The conversion of educational resources into an adequate and safe job takes place over a longer period than in occupational labour markets. Thus, one main difference between Germany and the two other countries with regard to the educational stratification of unemployment risks is that in the German context of occupational labour markets, exclusion from entry into employment operates on a clear-cut qualificational base. However, "underachievement" in the education system will also be penalised in the UK and France. This penalty takes the form of allocation to a "bad" job and a temporary employment contract at initial hiring and, beyond that, a generally disadvantageous position *because* of their educational performance when it comes to career advancement and lay-off decisions. Therefore, the consequences of educational achievement in terms of low unemployment risks will unfold later *in the course* of young people's early careers than in Germany, with respect to their chances of career advancement and continued employment. Yet, differences between the two countries exist in the general importance of educational credentials: the historical tradition of credentialism in France gives formal education an even stronger importance in employers' personnel decisions than in the UK. However, the analyses suggest a fairly clear-cut notion of what "bad" educational performance is in each country: for the (dis)advantage attached to certain achievements in the educational system tend to be *reinforced* over the course of people's careers: those school-leavers who have the best chances of entering the labour market also tend to have the best chances of profiting from a fairly stable early career in terms of lower risks of losing their job.

What is the impact of educational expansion on the educational stratification of unemployment risks? Is there a common trend observable across the three countries? The analyses reveal no spectacular changes in education effects over the past decade. The changes seem to reflect the idiosyncrasies of the particular setting in each country rather than a secular trend across nations. What do the results imply in terms of the Thurow model put forward in section 2? At first view, there does not seem to be much support for the hypotheses that we have derived from it, apart from - in some respects - the position of Germany. In Germany, we observe that the increase in qualified school-leavers in the course of educational expansion fosters indeed a greater risk of labour market exclusion for the unqualified. In other words, in occupational labour markets, educational expansion leads to an even stronger closure against those already being largely excluded. In the French and British labour markets, by contrast, we do not find the same trend. In view of the institutional reforms undertaken in the educational and employment systems, the British and French findings do not seem easily comprehensible. While the British, for example, have made great efforts to reform their vocational education and training system and to deregulate the labour market, we find almost no indication of improved relative chances for those with vocational qualifications, rather the opposite as far as labour market entry is concerned. In France, we indeed observe a slight improvement in the relative position of vocationally qualified school-leavers over those with general qualifications only, in particular with regard to the prospects of a stable career, which may come from modernisation of the vocational education system. The parallel decline in the relative benefits to tertiary education, however, seem counter-intuitive to the hypotheses that we derived from the Thurow model. Yet, more detailed research on this issue may provide further insight into the validity of the labour-queue model. In the case of the educational stratification of unemployment in Germany, we have made use of the idea of a labour queue to explain "who gets a job, who does not?", while assuming that the jobs to be distributed are more or less homogeneous in terms of the unemployment risk attached to them after people are hired into the job. In France, the assumption of homogeneous clusters of jobs cannot be made. Due to the predominance of internal labour markets and the need to screen new employees for some period of time, a large number of jobs are only temporary. These precarious job situations have increased in number over time and, as the empirical results in table 2 have shown, are associated with a very high risk of subsequent unemployment. French employers have shown a strong tendency over the past few years to cope with the uncertain economic situation by more flexible employment relationships which allows them to respond more quickly and easily to changing market demand. In consequence, if the ideas of the labour queue model are applied to explaining the educational stratification of unemployment on the French labour market, then it would need to answer two questions: first, "who gets a job, who does not?", second, "who gets a good job, who gets a bad job?", the latter being attached to a high risk of unemployment afterwards. With respect to the second question, the idea of a labour queue would imply that the lowest qualified school-leavers (who have been allocated a job upon completion of schooling) are placed at the top of the queue, the higher at the bottom. In times of educational expansion, the proportion of low qualified school-leavers among a school-leaver cohort, and among those who have been offered a job in particular (see section 2), decreases substantially. If the number of "bad jobs" associated with a high risk of subsequent unemployment remains stable or even increases over time as in France (Balsan et al, 1998), then more qualified school-leavers should be allocated to these bad jobs than before. Empirical evidence from other research confirms this. In consequence, school-leavers with higher education should experience higher risks of unemployment and, on average, a less favourable relative position compared to the lowest qualified than in earlier times. More extensive research is needed to elaborate on this issue. Investigating the consequences of educational expansion in more detail requires exploring, for example, whether reform of national education and training systems has been counterbalanced by developments in the youth labour market, and most importantly, empirically disentangling the impact of supply and demand-side factors.

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Appendix

Table A1-1: Labour Market Positions, based on EGP and Sectoral Position

Labour Market Position	Composition
Professional	I, II
Skilled	IIIa, V, VI, IIIb (if employed in public sector)
Self-employed	IVabc, Selfemployed form I, II,
Unskilled	VIIab, IIIb (if *not* employed in public sector)

Table A1-2: The EGP Classification

Classes	Description
I	Higher-grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors
II	Lower grade professionals, administrators, and officials; higher-grade technicians; manager in small industrial establishment; supervisors of non-manual employees
IIIa	Routine non-manual employees, higher grade (in administration and commerce)
IIIb	Routine non-manual employees, lower grade (sales and services)
Ivab	Small proprietors and artisans with or without employees
Ivc	Farmers and smallholders; other self-employed in primary production
V	Lower-grade technicians, supervisors of manual workers
VI	Skilled manual workers
VIIab	Semi- and unskilled manual workers, Agricultural and other Workers in primary Industry

Source: adapted from Brauns/Haun/Steinmann 1997, S. 5

A2: Early Career Unemployment Risks in Three European Countries, Logit Models

	France		United Kingdom		West Germany	
	1984	1994	1984	1994	1982	1995
Intercept	-0,60 (.04)	-0,31 (.05)	-0,54 (.04)	-0,28 (.05)	-1,01 (.05)	-0,70 (.11)
Women	0,46 (.04)	0,20 (.05)	-0,29 (.05)	-0,54 (.05)	0,25 (.04)	0,08 (.08) n.s.
Educational Qualifications (REF: CASMIN 1ab)						
- CASMIN 1c	-0,77 (.06)	-0,93 (.07)	-0,79 (.10)	-0,46 (.08)	-1,65 (.05)	-1,91 (.13)
- CASMIN 2b	-0,67 (.08)	-0,52 (.09)	-0,99 (.05)	-1,42 (.10)	-0,68 (.09)	-0,82 (.17)
- CASMIN 2a	-1,13 (.07)	-1,11 (.08)	-1,20 (.09)	-1,37 (.09)	-2,21 (.07)	-2,59 (.13)
- CASMIN 2c	-1,23 (.10)	-0,86 (.10)	-1,22 (.09)	-1,35 (.10)	-0,92 (.09)	-1,74 (.17)
- CASMIN 2c voc	-1,56 (.11)	-1,05 (.08)	-1,76 (.17)	-1,68 (.14)	-1,74 (.10)	-2,85 (.17)
- CASMIN 3a	-2,39 (.12)	-1,74 (.08)	-1,89 (.17)	-2,01 (.15)	-1,81 (.12)	-2,44 (.19)
- CASMIN 3b	-2,58 (.14)	-1,91 (.09)	-1,93 (.10)	-1,91 (.10)	-1,86 (.10)	-2,16 (.15)
N	12.961	11.621	14.269	11.178	33.518	13.644
Log-likelihood L_0	-6.959,18	-6.330,49	-7.056,55	-5.263,11	-10.577,50	-4.129,38
Log-likelihood L_1	-6.343,71	-5.941,48	-6564.81	-4838,40	-9.866,61	-3.804,81
Likelihood ratio test (df)	1.230,94 (8)	778,02 (8)	983,49 (8)	849,41 (8)	1.433,64 (8)	451,11(8)
R^2_{ML}	0,09	0,06	0,07	0,08	0,04	0,04
BIC'	-1.155,18	-703,14	-906,96	-774,84	-1.337,84	-570,74

Notes:
Standard errors in parentheses; *n.s.* signifies statistical significance at p > .05;
Sources:
Enquête Emploi 1984 and 1994; Mikrozensus 1982 and 1995; UK Labour Force Survey 1984 and 1994;
Entrants into the labour force, unweighted results

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WORKING PAPERS

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Comparative Analysis of Transitions from Education to Work in Europe

The Position of Young People and New Entrants in European Labour Markets

Thomas Couppié

Michèle Mansuy

Céreq
10 place de al Joliette
F-13474 Marseille Cedex 02
France
E-mail: couppie@cereq.fr
michele.mansuy@insee.fr

Introduction

The aim of this chapter is to present a broad descriptive overview of patterns and labour market outcomes characterising the school-to-work transition in European Union countries. Numerous studies have already dealt with these issues, both in national research and in comparative analysis (e.g. Shavit and Müller 1998, Hannan, Raffe and Smyth 1997, Hannan and Werquin 1999, Hannan and alii 1999, Ryan 1999). They single out the large variety of possible patterns and outcomes of the school-to-work transition. Firstly, they point out the possible linkages between the labour market and the education and training system. Secondly, they focus on the labour market integration of young inexperienced people, by analysing job access conditions and the resulting unemployment risks as well as investigating the specific instability of jobs held in the transition process. Thirdly, they focus on the job specificity of young inexperienced people. Their occupational attainment as well as the nature of firms hiring them appears to be more or less distinctive. Meanwhile, the blurred nature of the transition concept emerges as its changing outlines and characteristics across European countries are underlined. As a result, no common and comprehensive definition of that concept is sufficiently developed to pinpoint, in a single and straightforward fashion, key events delimiting the timing of the process and the individuals involved (Rose 1998, Vincens 1997, 1998).

Although researchers do not fully agree on a precise definition of the transition, they still permit a loose identification. Broadly speaking, youth transition from school-to-work can be summarised as the passage from school to a relatively stable position in working life. It is thus a dynamic process where individuals are singled out by their leaving position from the education and training system and also by their entry position on the labour market. This phenomenon has implications at the micro level and at the macro level. At the individual level, this phase corresponds to the process of acquiring experience on the labour market. Education and training qualifications are thus converted into working abilities and job positions. At the macro level, transition is a blurred period where birth cohorts, previously linked by their collective participation in the education and training system, become separated. At the two levels, the process is present in all the EU countries. But it takes various forms, depending on the characteristics of the national educational system and their interactions with labour market organisation. Thus, the biographical timing of the transition process and the associated forms of activity are likely to differ from one country to another.

The following presentation is based on the European Union Labour Force Surveys of 1995, 1996 and 1997. These surveys essentially collect cross-sectional data with information available by age[1]. In the first part, we intend to delimit the biographical timing of the transition in order to empirically delineate its outlines. This leads us to a description of some cross-national differences in transition features. Then, we introduce the notion of new entrants as a more useful category in analysing the transition process than birth cohorts. In the third part, we present some major characteristics of LM outcomes for new entrants. The conditions of their integration on the LM are presented with a particular focus on the mobility issue. The quality of jobs they held is also investigated. The last part is devoted to a brief reminder of the role of educational attainment in transition outcomes.

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[1] The reader should keep in mind that all indicators presented by age group are constructed from data collected on different birth cohorts. Thus, interpreting what is observed at the moment as what is expected to happen to a birth cohort in the course of its life is based on the assumption of a certain permanency of institutions, regulations and agents' behaviours on the labour market and in the education and training system.

The 'youth' perspective : biographical timing of the labour market entry in Europe

Different patterns of ending participation in education and training system (ETS)

Compulsory school is a common feature across all European countries and, although the minimum age varies between countries, it warrants that almost every young person under 14 attends some kind of course. Beyond that stage, participation in the ETS[2] follows a linearly declining trend as age increases (Figure 1). Finally all national situations converge toward a residual level of participation in ETS. But the whole process leading from a starting point with everybody in ETS to an ending point with a stabilised residual level of participation is dramatically differentiated between countries.

National peculiarities are present in all the main features of the process. The starting point and the pattern of leaving ETS vary strongly. The process has already started at 15 in certain countries (Greece, Italy and Portugal) while it has hardly begun at 18 for others (Belgium, Denmark, Germany and France). The pattern itself is far from being regular between as well as within countries. Some countries seem to show a slow decrease in participation among the youngest age cohorts, then a dramatic fall to finish with a smooth slip down (e.g. Belgium). Others show a quick fall that slows down as age increases (United Kingdom). For some countries, the participation rate may temporarily halt its decline (e.g. Austria or Sweden). In the same way, the ending point of the leaving process shows important variations. The age showing a stabilisation to a residual level of participation in ETS (a maximum variation in the participation rate of 2% between two successive age cohorts) ranges from 24 (United Kingdom) to 30 (Italy).

The dramatic variety across countries can be underlined by the minimum and maximum participation rates observed for every age among the 15 EU countries. The gap between the two curves is never lower than 17% between the 15 years-old age cohort and the 26 years-old age cohort. It rises to about 40% for the 19 years-old age cohort, contrasting France (80.5%) and the United Kingdom (42.8%). Another way to underpin the dramatic differentiation of national patterns is to single out the age range in the leaving process. The passage from a 90%

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[2] Whatever the nature of ETS track, including lower secondary education and training courses, higher education courses and apprenticeship.

participation rate in ETS to a 10% rate ranges over 8 year groups in Belgium (from 18 to 25) *while it ranges over 16 year groups in Italy (from 15 to 30).*

The differentiation of the leaving process described above mainly has its origin in the variety of national organisation of the ETS. Leaving points correspond to the attainment of different education and training routes offered to pupils, students, trainees and apprentices. However, many reasons contribute to explaining the rather smooth curves of the participation rate that are observed rather than successive 'jumps' corresponding to leaving points. Inside the ETS, the differentiation of tracks and curricula contribute to a multiplicity of exit points. The existence of linkages between tracks and curricula is another source of age variation at a given leaving point. Repeating a year is another factor increasing the range of ages when leaving ETS.

Beyond the differentiation of routes within the ETS, the issue of possible prospects open to ETS participants is the next issue to be dealt with. A first clear alternative is offered to young people: entering the labour market as part of the labour force or staying out of it.

A linear rise in the activity rate among youth

Between the ages of 15 and 30, most of the young choose to enter the labour market. This decision may occur during the course of their studies. But more often, it happens after they have left education and training programmes. Indeed, through age cohorts, the activity rate rises as participation in education/training declines. For young school leavers, staying out of the labour force is a marginal behaviour as indicated in figure 2. The proportion of people who are inactive apart from educational participation remains low, although it increases gently but continuously with age.

Beyond these common trends, diversity between European countries is even wider than for training participation. The minimum and maximum activity rates observed for every age among the 15 EU countries show wide gaps (around 20% or more) through 15 to 25 with a maximum interval of about 70% at 17 contrasting Belgium (3.1%) and Denmark (73.0%). Again, the dramatic differences in national behaviour are underpinned by the age range in the activity increase. The passage from a 10% activity rate to a 75% rate ranges over 5 year groups in Denmark (from 15 to 19 years old) while it ranges over 16 year groups in Italy (from 15 to 30 years old).

So, three profiles of the development of labour force participation can be briefly identified. The first profile aggregates countries where there is an important association between an increase in activity and a decline in training. The second profile is quite similar to the first but the increase in activity is tempered by the early role of inactivity not associated with ET participation (Greece, Italy and partly Sweden). The third profile is rather different. Countries belonging to it show dramatic increases in activity before the fall of training participation. The explanation lies in the existence of situations where training participation is combined with having a job. These combined situations have different origins and intensity in the EU countries but they all share the common feature of being transitory events related specifically to young people.

Specific transitory intermediate statuses: the combination of working and training.

A first specific feature of youth participation in the labour market consists in borderline situations bordering on one side the trainee, pupil or student status and on the other side the worker status. These situations imply simultaneous participation in the two activities, albeit patterns of combinations vary strongly. The scope of combinations can be ordered according to the respective importance of each activity to the young. It ranges from a school-dominant position associated with a working student profile to a working-dominant position associated with a training worker profile. Extreme positions can be illustrated by the secondary role of the minor activity. In the first case, working tends to be a subsidiary function in order to ensure the continuity of the training process. In the latter case, training tends to be an enhancement pattern of job skills scheduled by the employer. Between these positions, apprenticeship stands out as a more balanced profile that links training and working activities as joint elements of qualification production.

Practically, however, grouping the combined statuses according to the link between the two activities can be hard to establish in surveys like LFS. Nevertheless, the overall importance of those combined situations reveals that the European Union can be split into two groups of countries. The first group aggregates countries where these situations have a rather weak impact on the pattern of transition (figure 3). In these countries, the combined status of worker and trainee is infrequent, never exceeding 10% for an age group. The link between training and working can be viewed mainly as a turning point between the two activities. The second group aggregates countries where those situations have a more extensive impact on the pattern of transition. The set of countries is more restricted. It includes Denmark, Germany, Netherlands, Austria, Sweden and United Kingdom. The importance of combined status rises to 20% for some age groups and can reach far higher levels. The nature of such situations is transitory, as shown by the limited range of age groups involved. This range is at its greatest in Denmark with 10 year groups (15 to 24) being above the 20%-share of combined status among them. However, that doesn't mean these countries have close patterns of combining the two activities. Germany and Austria, with well-developed apprenticeship organisation, can be contrasted to the Netherlands and Sweden with dominant non co-ordinated combinations of training and working. Both types of combinations are present in Denmark and United Kingdom.

Combined training and working situations represent a first specific feature of the youth transition from school to work. This feature is not the only one to be considered, as entering the labour market does not necessarily mean access to a job. Unemployment can be viewed as another transitory situation, although it also concerns experienced workers.

Access to jobs: unemployment as an initial rough measure of difficulties in entering companies

The ultimate aim of young people in the transition period is to obtain a good employment position. This process can in some cases start -and succeed- before the end of schooling, but it usually extends beyond this time. Unemployment simply describes the situation of young people seeking a job. This is not a situation specific to young people but, in their case, it assumes a specific level and reaches a momentum that singles out young people from other labour force groups. Moreover, the nature of this momentum is essentially transitory, as is the case observed for intermediate statuses combining training and working.

There are two ways to measure the importance of unemployment among different age groups. First, the unemployment rate can be interpreted as a risk indicator as it compares the unemployed to the total labour force. Second, the unemployment proportion can be interpreted as an extent indicator as it relates the unemployed to the whole population. The first evaluates the intensity of difficulties on the labour market while the second measures the global impact of unemployment among different age groups[3]. The way the two indicators combine together leads to different macro economic interpretations of young people's LM position. For example, a proportionately high level of unemployment indicates that a large group of young people is facing difficulties in accessing jobs while a significant difference between the unemployment proportion and rate indicates enhanced risks to a restricted subgroup.

Figure 4 shows the two indicators' evolution among age groups and also depicts EU minimum and maximum points of unemployment proportions. No common tendency across Europe can be established. On the one hand, quasi-constant and low levels of youth unemployment can be found in Denmark, Germany, Austria and to a certain extent the Netherlands. The two measures remain close at every age over 17. In these countries, young people do not seem to have specific difficulties in accessing and remaining in jobs. On the other hand, the early increase and later progressive fall of the unemployment proportion indicate a transitory regime applying to youth unemployment. The peak and the spread of such a regime vary between countries. It is particularly noticeable in some countries (Greece, Spain, Italy, France and Finland), less pronounced in others (Ireland, Sweden, Portugal and United Kingdom). The most extreme situation applies to Spain with unemployment proportions peaking at 25 years old and still declining after the age of 30. This feature indicates widespread difficulties throughout youth in accessing jobs. Meanwhile, the unemployment rate reaches high levels early with a peak between 15 and 20 years-old, topping 60% or more of young actives in some countries (Finland, Spain). Then it rapidly decreases to converge towards the unemployment proportion. This feature highlights transitions occurring at early ages as highly risky events and points out early school leavers as a disadvantaged category on the labour market. Among countries fitting this profile, United Kingdom is a borderline case as it shows a limited extent of unemployment, a slight decline as age increases and a rapid reduction in unemployment risk.

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[3] The unemployment rate is always higher than or equal to the unemployment proportion and the two tend to converge as the activity rate rises. They become equal among groups when everybody is active.

Having detailed the main possible positions for young people in and out of the labour market, a brief summary of national situations would help to highlight some national specific characteristics of school-to-work transition.

Figure 1: Proportion of people attending an education or training programme - average 1995-1997

Figure 1a : "OLM-type" countries

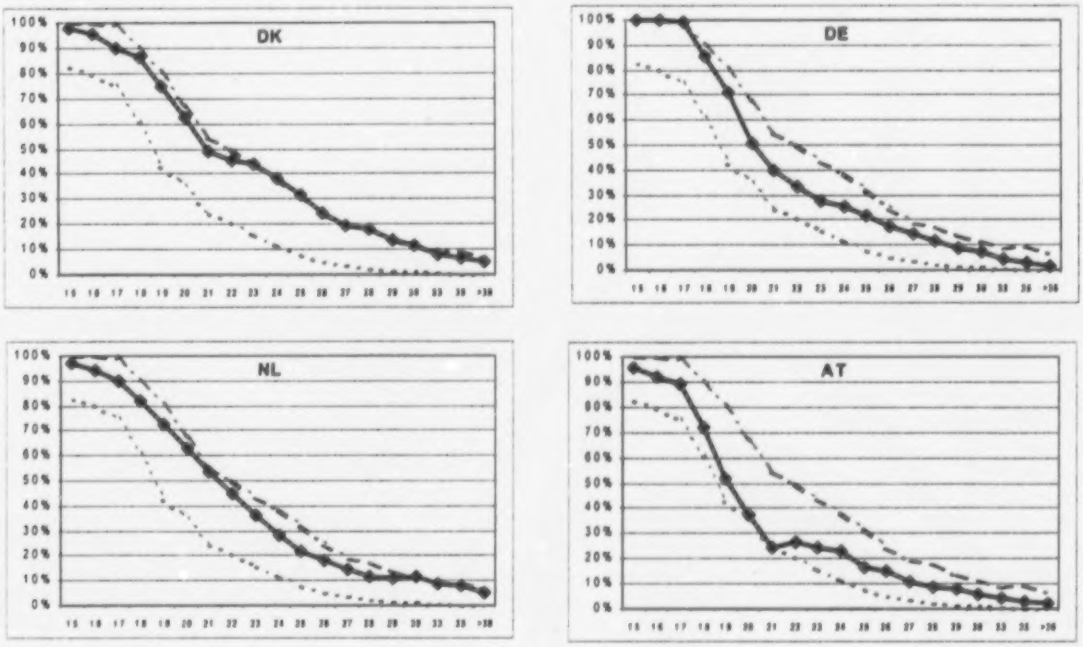

Figure 1b: Southern countries

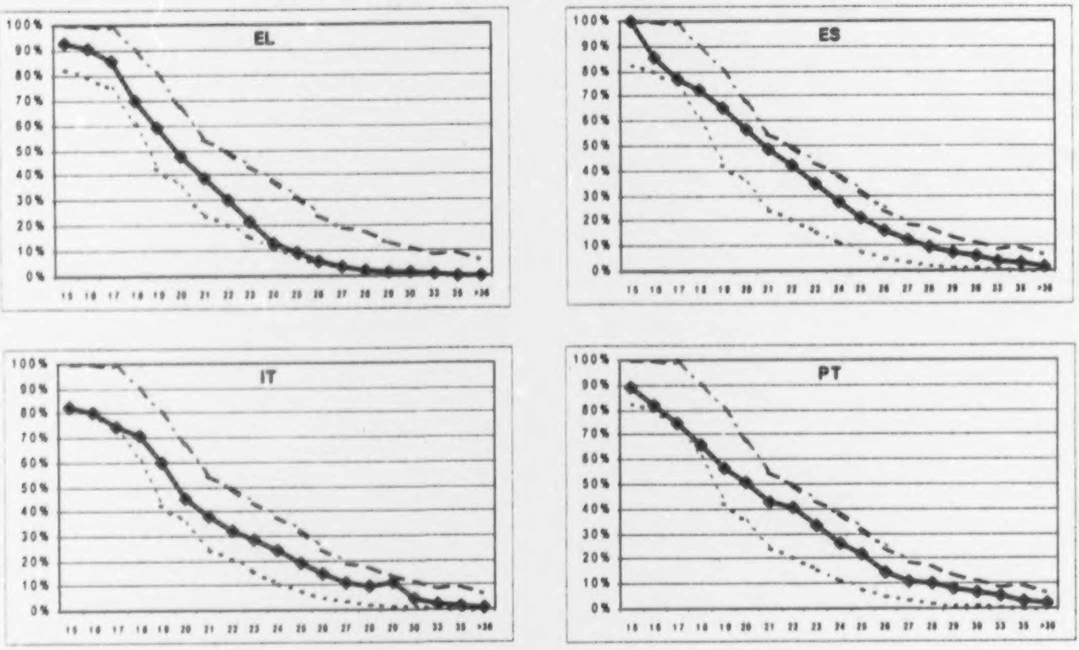

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Figure 1c: Other countries

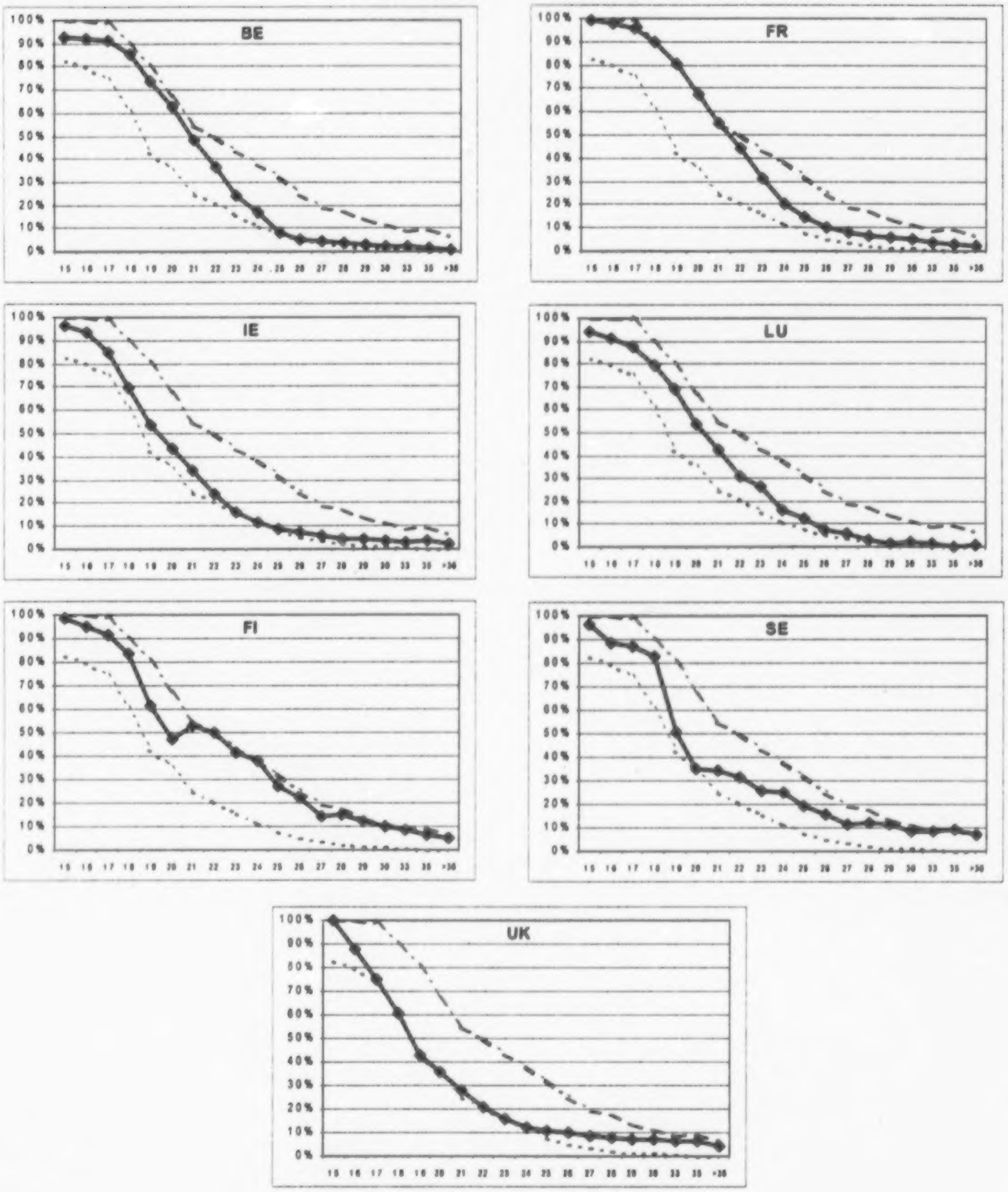

Figure 1d: European Union (EU-15)

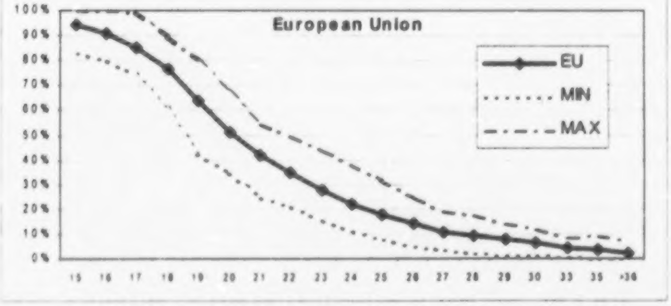

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Figure 2: Proportions of active and inactive people, by age - average 1995-1997

Figure 2a : "OLM-type" countries

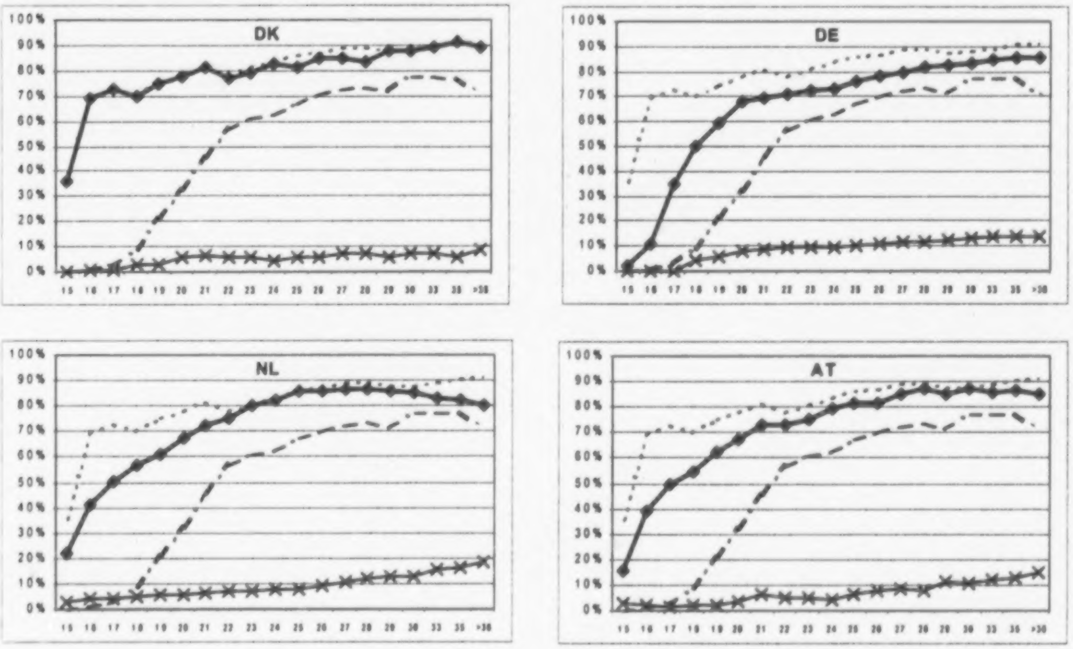

Figure 2b: Southern countries

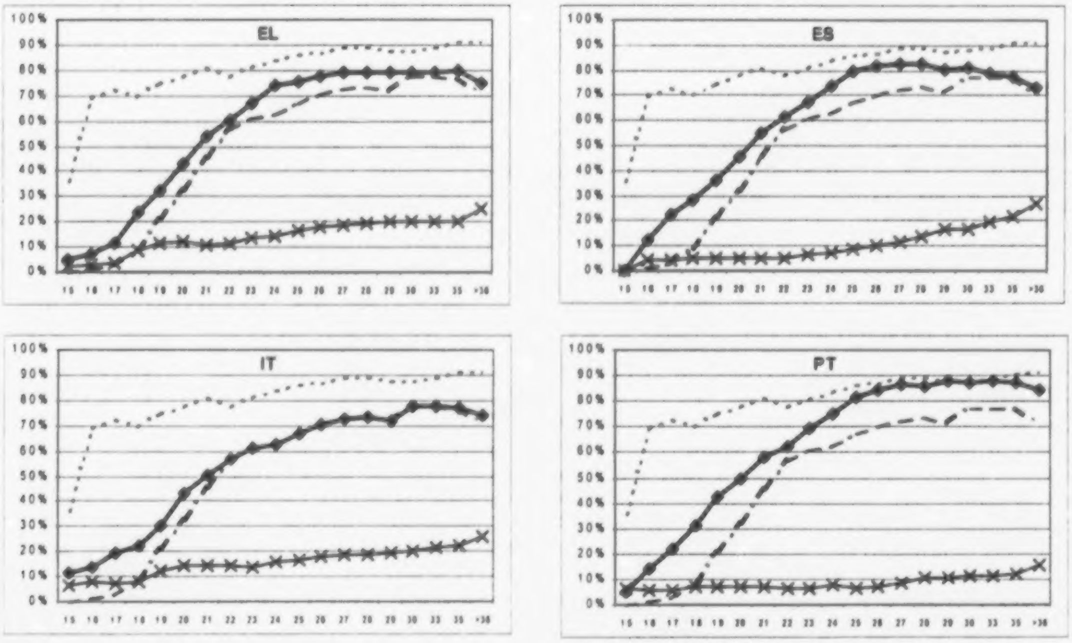

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Figure 2c: Other countries

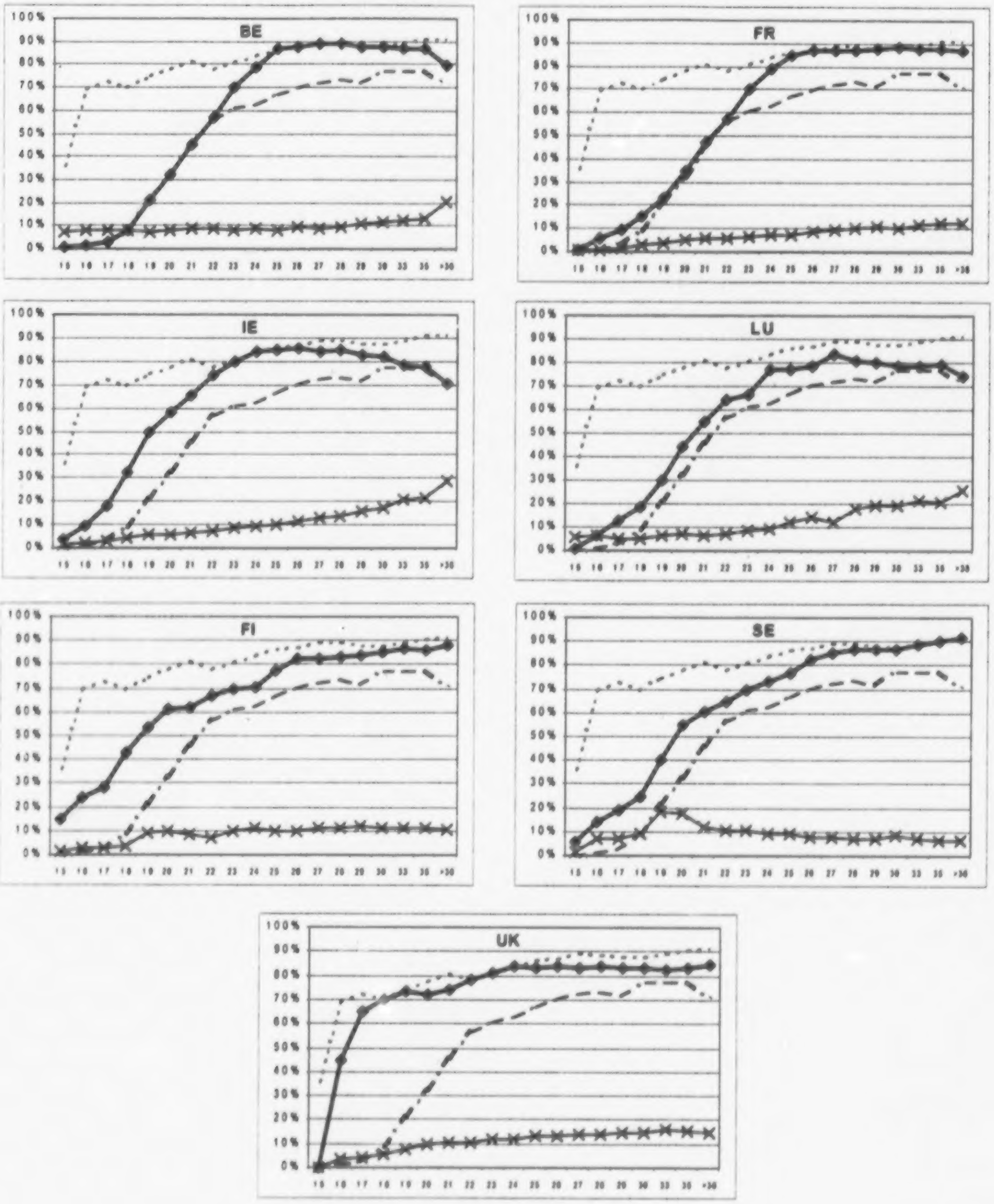

Figure 2d: European Union (EU-15)

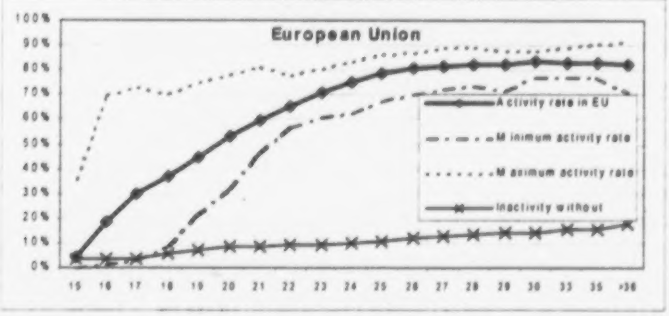

Figure 3: Situations combining employment and training by age - average 1995-1997

Figure 3a : "OLM-type" countries

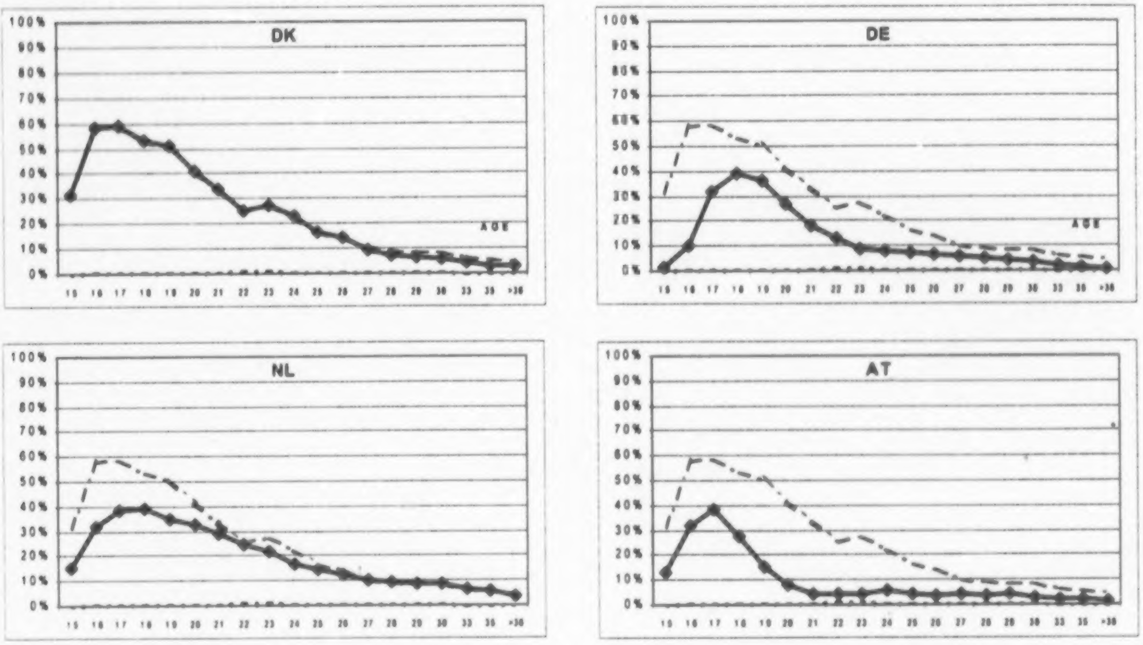

Figure 3b: Southern countries

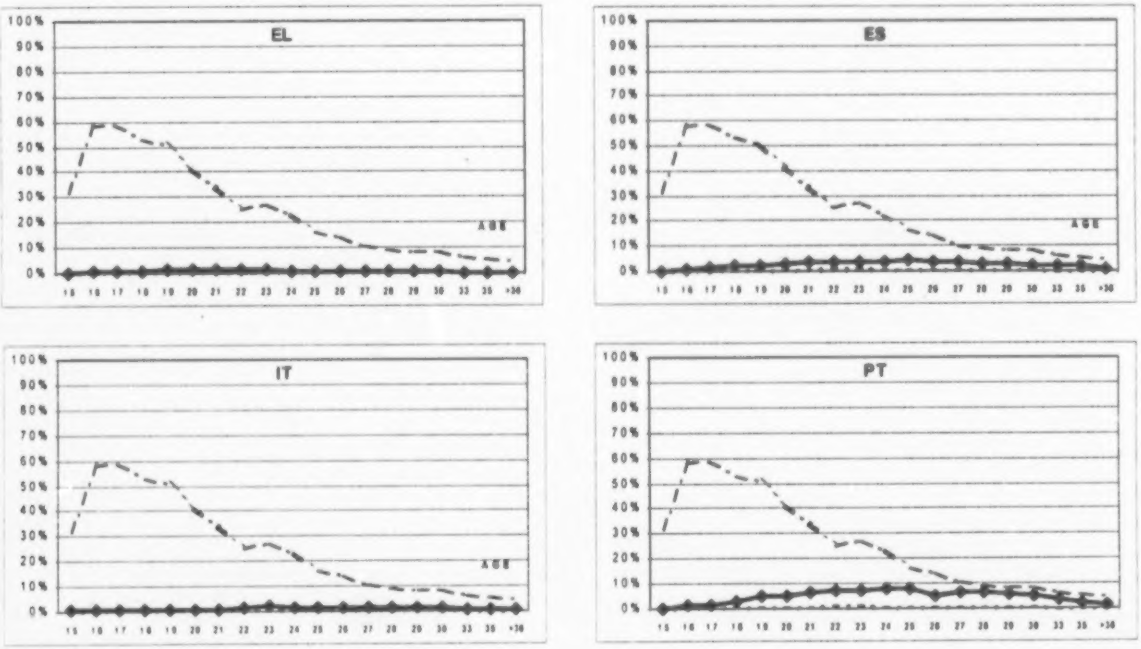

Figure 3c: Other countries

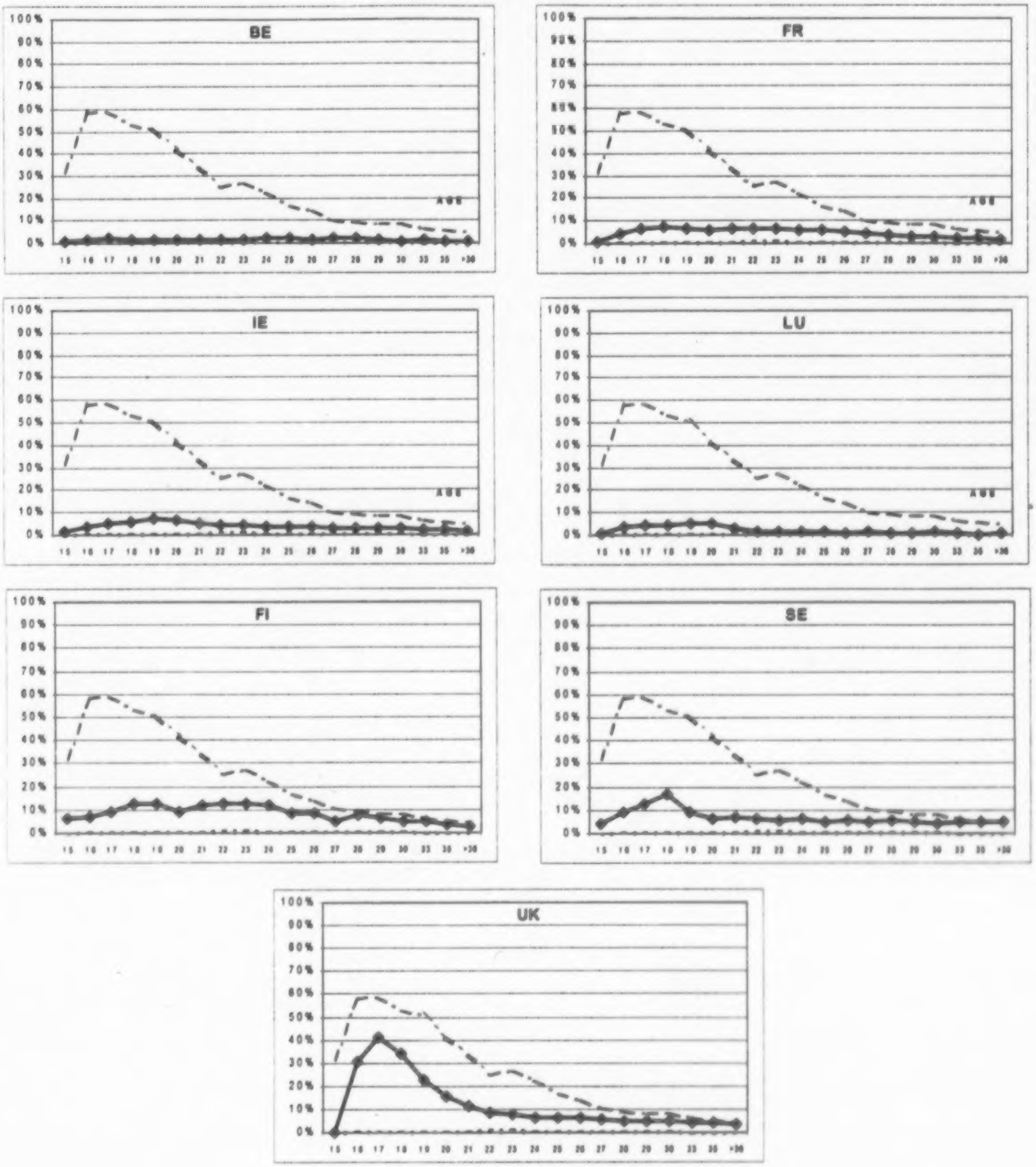

Figure 3d: European Union (EU-15)

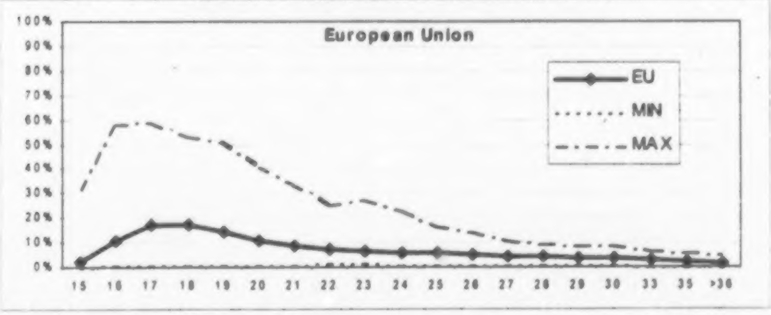

Figure 4: Proportion of unemployed and unemployment rate by age - average 1995-1997

Figure 4a : "OLM-type" countries

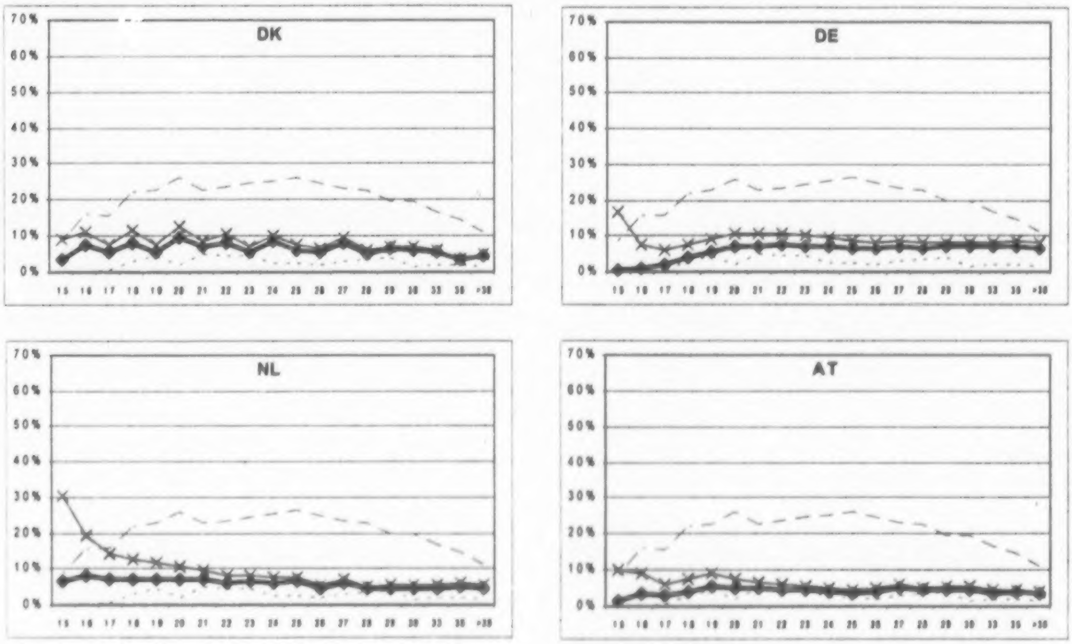

Figure 4b: Southern countries

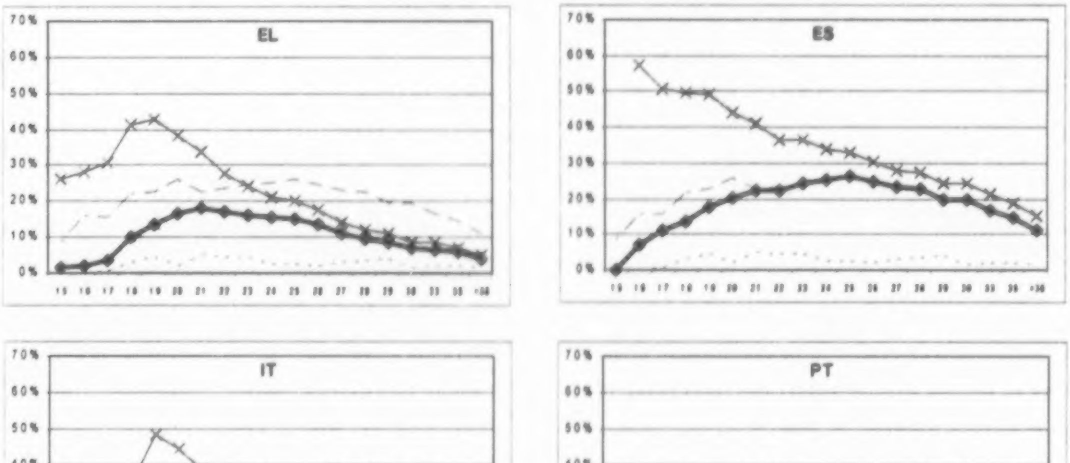

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Figure 4c: Other countries

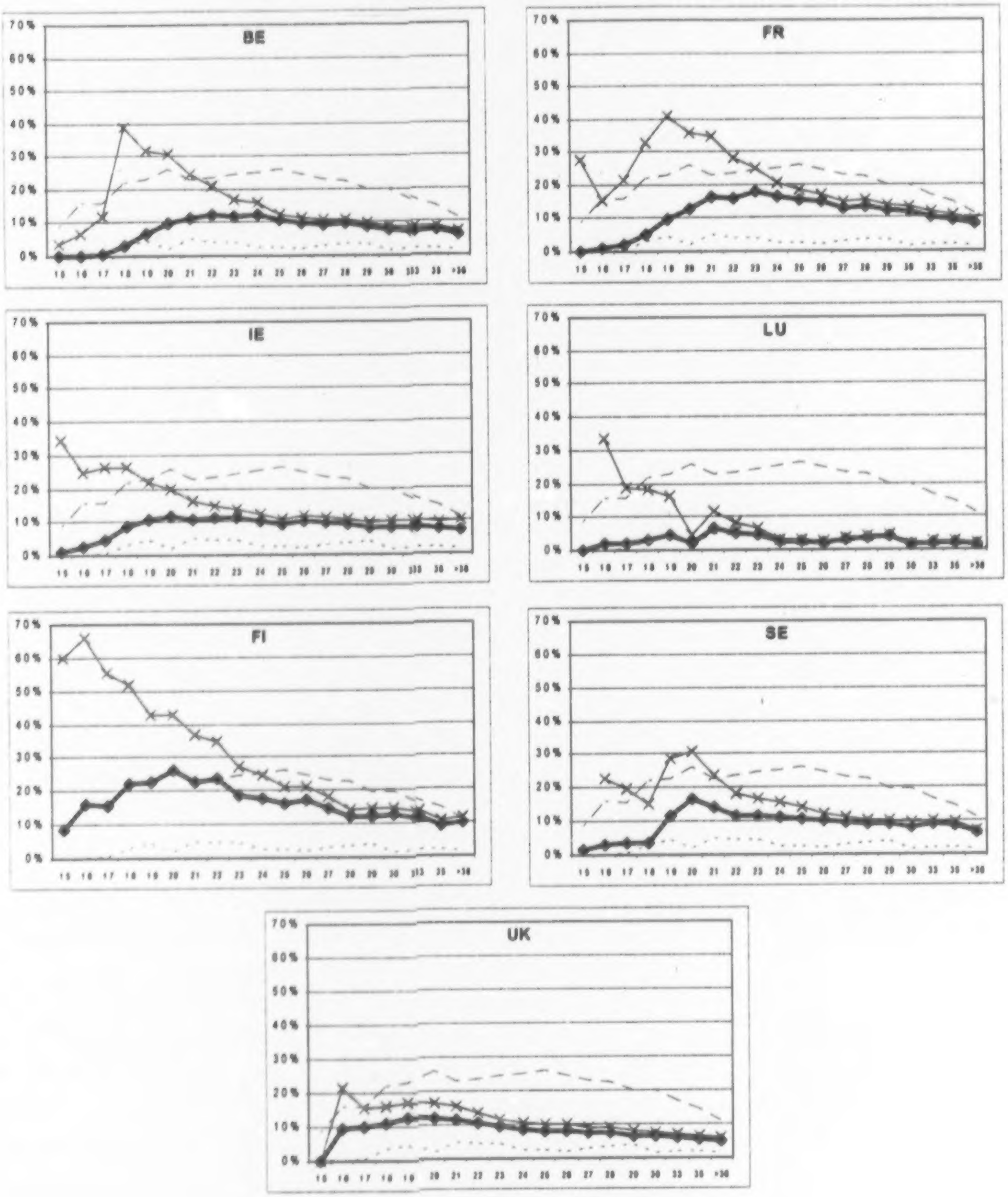

Figure 4d: European Union (EU-15)

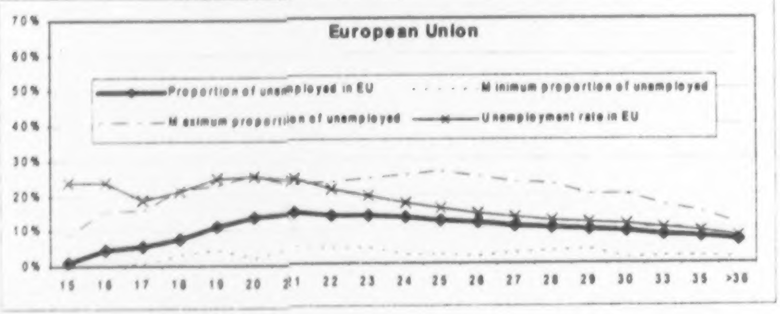

Figure 5: Biographical timing of the school-to-work transition – Recapitulation of national features, average 1995-1997

Figure 5a : "OLM-type" countries

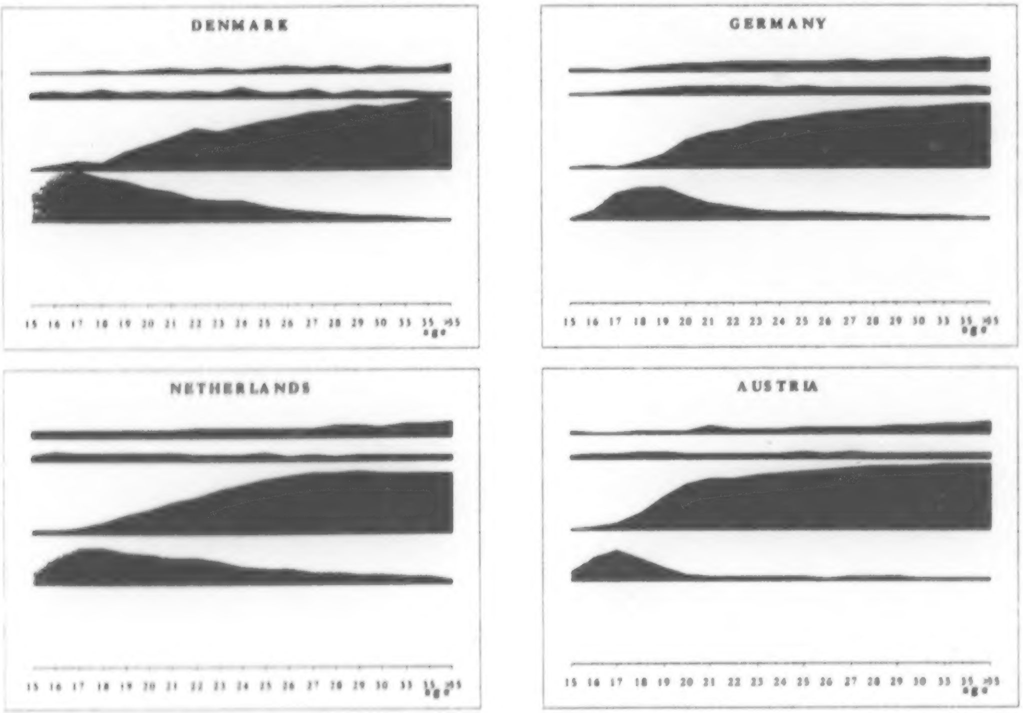

Figure 5b : Southern countries

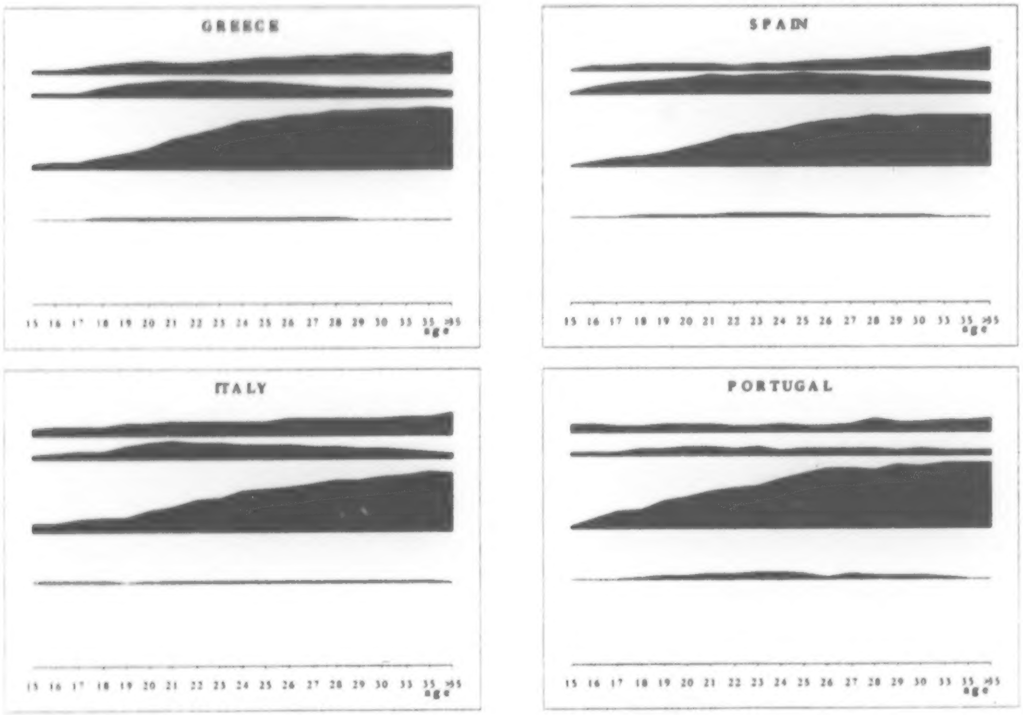

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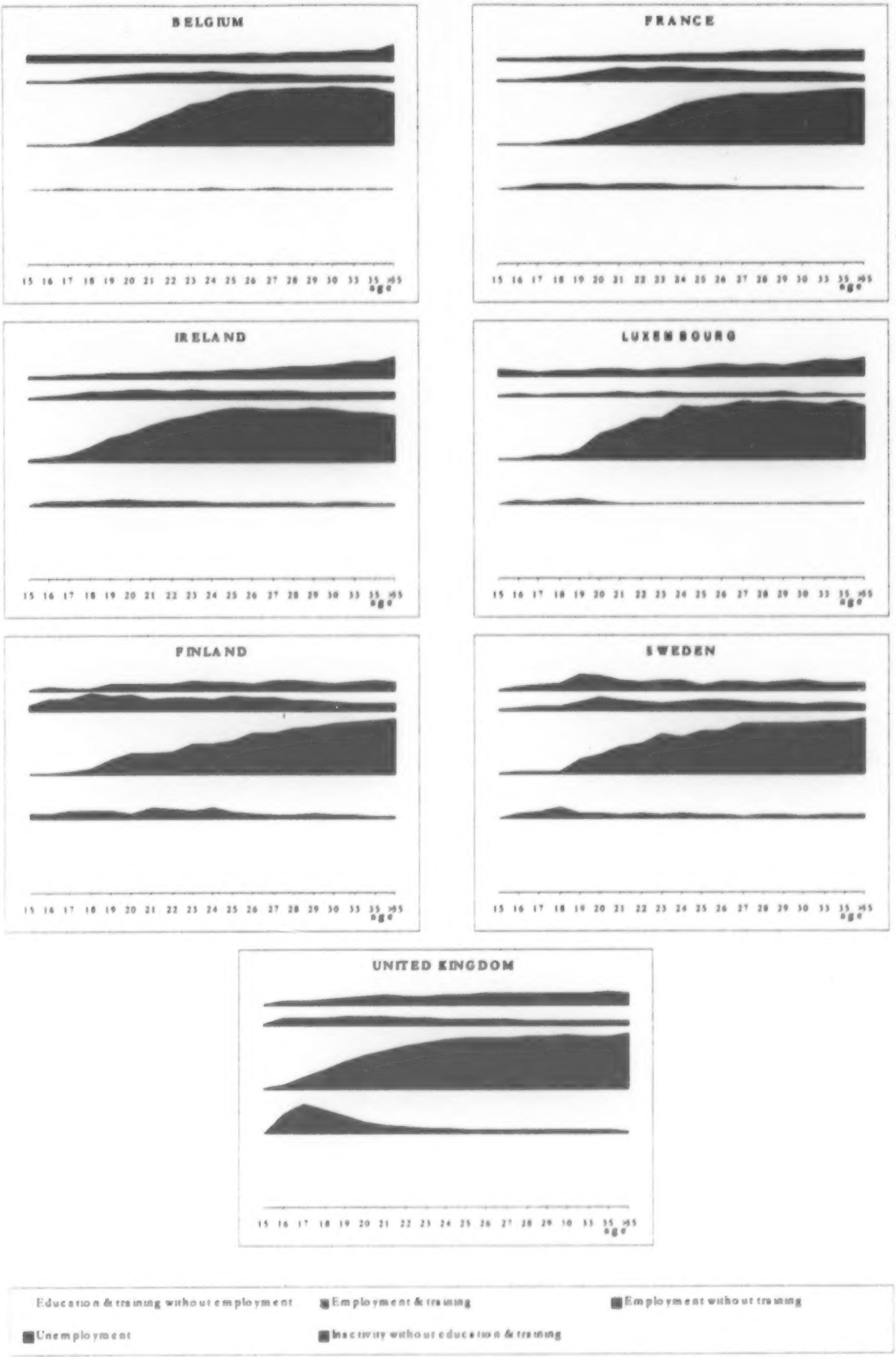
Figure 5c: Other countries



Age of youth entry into the labour market: a summary

The preceding results can be summarised by country, as shown in figure 5. Clearly, some country profiles emerge. They partly fit with our formal clustering contrasting 'OLM-type' countries, southern countries and the other countries.

'OLM-type' countries share a quite similar profile, which contrasts significantly with the profiles of other countries of the EU. The process of entering the LM starts around the age of 15. It mainly takes the shape of combinations of training and employment between 15 and 20. Unemployment has a limited impact during the whole process. However, other features are more national-specific.

Denmark is the country where double statuses of training and employment are the most developed. Their impact is quite concentrated on younger cohorts but is still significant after the age of 25. Apprenticeship, although well developed, is far from being the only way of combining training and working. By contrast, employment without training increases smoothly across age cohorts. The stabilisation of positions on and out of the labour market occurs at a late stage, around 30.

The Netherlands shares with Denmark a large spread of double statuses across age cohorts. These situations are still evident after 30. But, unlike in the other 'OLM-type' countries, apprenticeship plays a minor role in combinations of training and working. The growth of employment without training is more sustained. The stabilisation of positions on and out of the labour market occurs a bit earlier, around 27.

Germany shows a strong but more limited impact of double statuses across age cohorts. These situations correspond mainly to the famous German 'dual system' based on apprenticeship. Unlike Denmark and the Netherlands, the young attending school-based ET courses stay out of the LM. The extension of employment without training is continuous and still in progress around the age of 30. This can be connected with some long lasting participation in the ETS beyond the age of 25. Thus, the stabilisation of positions on and out of the labour market occurs at a late stage, around 30.

Austria differs a bit more from the three others as double statuses have a more restricted impact, albeit important between 15 and 19. Like in Germany, these situations are also mainly related to apprenticeship. By contrast with the other countries, the growth of employment without training is concentrated between 17 and 21. A minor part of long lasting participation to ETS results in a rather late stabilisation of positions on and out of the labour market, around 28.

Southern countries appear a bit more heterogeneous when compared with the preceding group. While Greece, Spain and Italy share common features leading to a rather specific group profile, the case of Portugal differs strongly. ***The proximity of Greece, Spain and Italy*** rests on four characteristics. First, unemployment has a significant impact, covering numerous age cohorts between 18 and 30. Second, combinations of training and working are absent in these countries. Third, the growth of employment rate is smooth and lasts until 30. Fourth, there is a progressive rise of inactivity not related to training through age cohorts. Still, the three countries have national-specific features.

Greece has the least marked profile of the three. Participation in ETS is strong until 20, levels of unemployment remain beyond those of Italy and Spain and employment rates make major progress before 25. The stabilisation of positions on and out of the labour market occurs around 28.

Spain, by contrast, is singled out by its high levels of unemployment, peaking at 25. Compared to the others, inactivity without training has a more restricted impact. Spain is the country of the European Union where employment is generally the least developed throughout age cohorts. Although employment reaches a peak at the age of 28, the decline of unemployment is then still in progress as inactivity rises. Thus, the stabilisation of positions on and out of the labour market occurs after 30.

Italy has a midway position in many aspects of its characteristics of unemployment and employment. It contrasts with the two others in the relatively high impact of inactivity through age cohorts. Inactivity without training has an early, significant influence. On the other hand, ETS participation is still noticeable between 25 and 30. The stabilisation of positions on and out of the labour market occurs at a late stage in Italy, after 30.

Portugal presents a quite different profile to the three former countries. Unemployment is rather moderate and without much variation across age cohorts. Although double statuses haven't a strong influence, employment without training peaks at a higher level than in other southern countries. The stabilisation of positions on and out of the labour market occurs around 28.

The other countries group appears to be the most heterogeneous of the three. There is no real common profile shared by all countries. Two countries, United Kingdom and Finland, can be partly linked with preceding profiles while France and Belgium on one side, Ireland and Luxembourg on another side, present similarities. Sweden stays apart in an intermediate position.

The United Kingdom presents some similarities with the 'OLM-type' countries. The process of entering the LM is already in progress at 15. Between 16 and 20, it is also based on combinations of training and working, mainly by way of Youth Training. As in Austria, employment without training shows a sustained growth before 20. But the British situation differs in various ways. First, a more influential role of unemployment for the youngest age cohorts can be noticed. Second, participation in the ETS sharply declines between 20 and 25. In contrast, employment without training continues its vigorous growth until 25. Thus, the whole process leading to stabilisation of positions on and out of the labour market through age cohorts is achieved around 25.

Finland can be partly linked with the group of the three southern countries. First, it shares with them high levels of unemployment for all age cohorts from 15 to 30. Second, the rise of employment without training is rather smooth and still in progress after 30. But Finland differs from the others in the more limited extent of inactivity without training, more developed double statuses and a higher final level of employment. As in the southern countries, the stabilisation of positions on and out of the labour market occurs at a late stage, after 30.

Belgium and France have in common a late start of the transition process. It hardly begins at the age of 18 and, until the age of 20, a major part of young people are still in the ETS. Then, ETS participation dramatically falls to become residual after 25. In the two countries, unemployment has an influential role through age cohorts after 20. The impact of combinations of training and working is rather limited. Almost absent in Belgium, double statuses are a bit more extended in France due to apprenticeship and public employment policies. The two countries also differ in the pattern of employment growth, being more sustained in Belgium. The stabilisation of positions on and out of the labour market occurs around 27 in Belgium while it occurs a bit later in France, around 30.

Ireland and Luxembourg have some proximity with Portugal. Unemployment is rather moderate while double statuses have a restricted influence through age cohorts. Still, ***Ireland*** presents some peculiarities. ETS participation declines sharply until 25 to become residual. On the other side, employment without training rapidly grows to peak at 25 while unemployment tends to diminish slightly. The evolution of inactivity without training also differentiates Ireland as it grows gently across age cohorts. As in United Kingdom, the stabilisation of positions on and out of the labour market occurs rather early, around 25.

Luxembourg is characterised by very low levels of unemployment. By contrast, as in Portugal, the level of employment becomes high but it occurs earlier in Luxembourg. The stabilisation of positions on and out of the labour market occurs around 27.

The Swedish profile is characterised by the somewhat influential role of unemployment and inactivity without training between 20 and 25. Double statuses are present but infrequent. There is no apprenticeship in Sweden and these cases are representative of uncoordinated training and working combinations. Unemployment progresses smoothly across age cohorts while long lasting participation in the ETS is also present. The stabilisation of positions on and out of the labour market occurs around 28.

Changing perspective: from youth to new entrants

The previous analysis has allowed us to assess the temporal aspect of the event and some specific features of the situations encountered:

- *The gradual transition of a birth cohort from education and training to employment* occurs at variable ages and variable speeds depending on the countries. The biographical period of the transition begins at the time the first members of a birth cohort leave the education and training system and ends at the time the birth cohort's participation in the employment system reaches its peak. In that sense, countries are highly differentiated with some of them characterised by a rather early and short period of transition (Austria, Ireland, United Kingdom) while others are singled out by a late start (France, Belgium) or an extended time (Italy, Finland).

- *The transition of birth cohorts is marked by numerous intermediate situations* between full-time training and stability on the labour market. Two types have been singled out: situations associating training with a work activity on the one hand and situations of unemployment on the other. These situations are not necessarily specific to the period of labour market entry, but they may be over-represented in that period. We have already observed various combinations of those elements in the different countries.

The national features of the transition process turn out to be extremely heterogeneous. They raise the issue of the influence of national institutions and arrangements on the transition process. Obviously, national organisation of the ETS influences the biographical timing of the transition. The existence of various possible tracks, the country-specific definition of degree courses and the multiplicity of leaving points they generate inside the system contribute to the establishment of nationally favoured ages for ending ETS participation. National LM organisation has an impact too. The possible combinations of training and working depend on the nature of LM arrangements prevailing in the different countries. As a consequence, it appears that strong links between the ETS and the LM favour early activity. One can also relate the impact of unemployment in youth transition to LM regulation. The existence and the extent of specific youth unemployment can be interpreted as different national-based patterns of considering short LM experience in hiring decisions.

Thus, the issue of national institutions leads us to single out some limitations of a comparative analysis of the school-to-work transition based on age cohorts. Unable to catch the specificity of national institutions, such an analysis simply cannot take them into account and therefore neglects their influence.

As a result, it becomes difficult to further develop comparative analysis of the respective role of training attainment and LM experience during the transition process based on age cohorts. An alternative strategy should then be envisioned for further analysis. It should attempt to deal with institutional factors resulting in differentiation between countries. More specifically:

- *The national institutional features that influence the phasing of labour market entry should be integrated.* This leads us to favour categories of individuals based on the timing of their LM entry and the nature of their school attainment.

- *The elements of the transition process directly deriving from the educational structures should be separated from those depending only on the modus operandi of the labour market.* In order to do so, it is necessary to distinguish, amongst the active individuals, those who have completed their training from those who are pursuing a training programme in the educational system. This serves to separate labour market events that can be linked, directly or indirectly, to a public educational policy regulated by institutions outside the labour market from labour market events resulting from the organisation and modus operandi of the labour market itself.

On the basis of these remarks, an alternative category of new entrants can be useful to improve the comparability of national profiles of transition. It combines characteristics of their position towards the education and training system with the experience accumulated on the labour market (see appendix A for the construction of the category).

Labour market outcomes for new entrants

Integration of new entrants into the LM: job access conditions and labour market mobility

A description of new entrants' integration into the labour market follows. First, job access conditions and unemployment risks will be developed. Then, the effective stabilisation in jobs finally held is overviewed. Finally, possible specific work conditions are investigated as a potential source of new entrants' higher mobility.

Figure 6: Unemployment rate according to duration of the current spell, by years of experience on labour market

Figure 6a: "OLM-type" countries

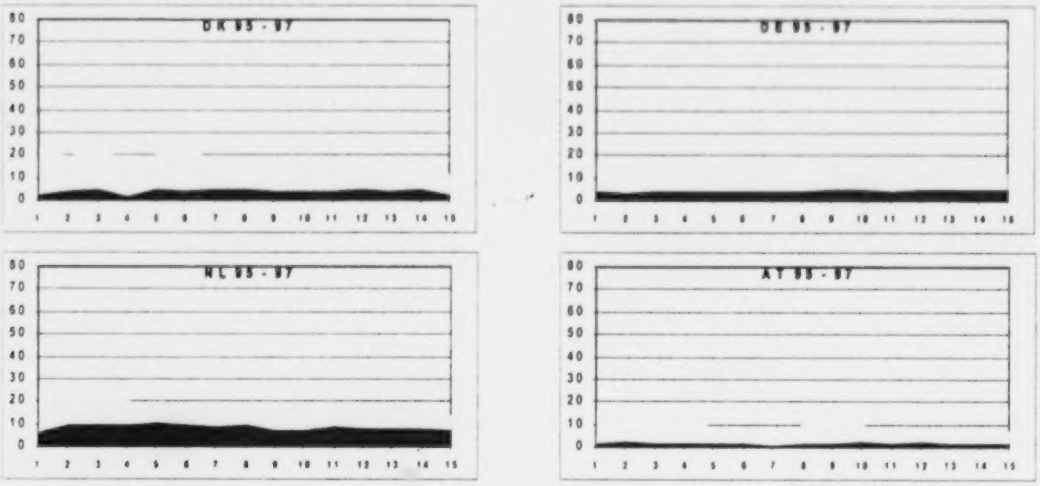
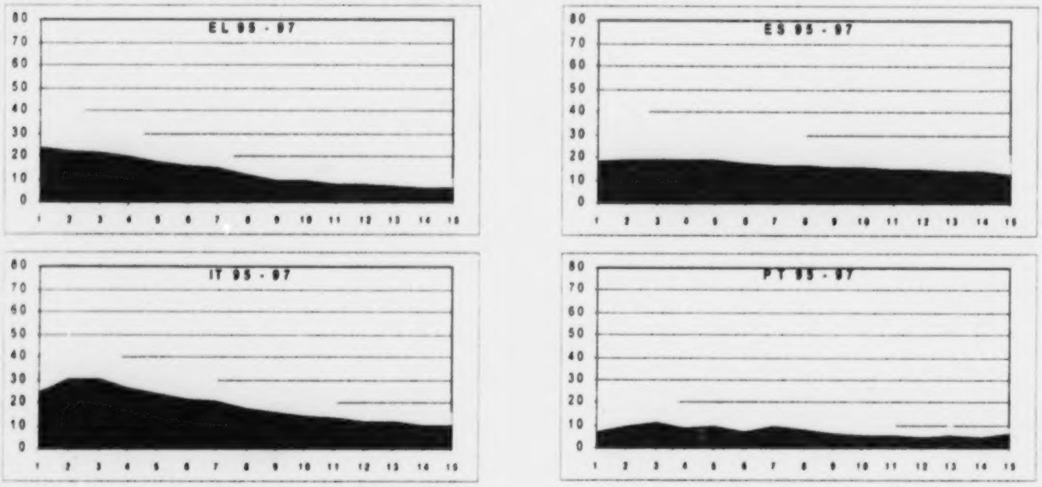


Figure 6b: Southern countries



■ Unemployed for more than one year (% among active people)

Unemployed for less than 1 year (% among active people)

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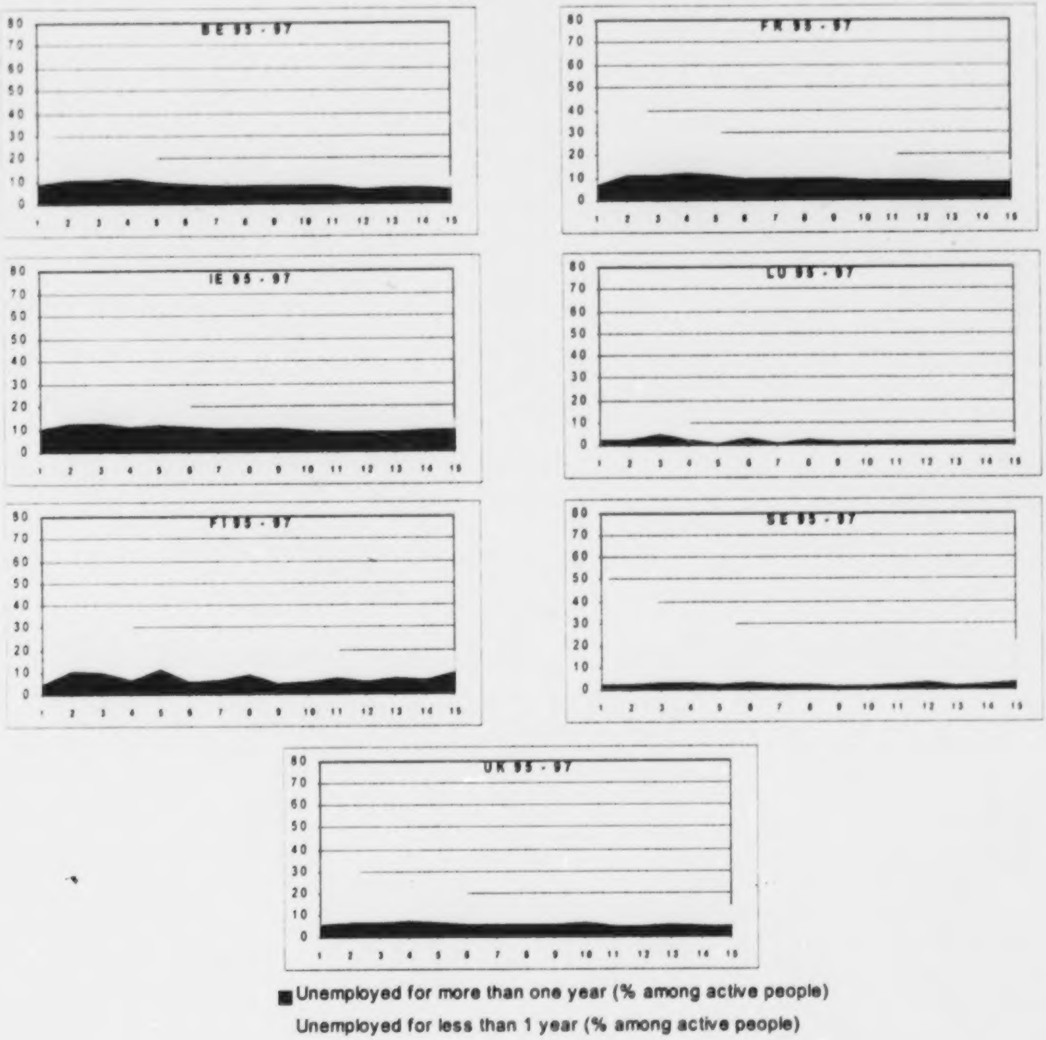
Figure 6c: Other countries



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Unemployment among new entrants

The analysis of youth unemployment has revealed two profiles: one with unspecific constant unemployment and the other characterised by a transitory regime somewhat focused on transitions occurring at early ages. The analysis of new entrants' unemployment partially confirms such assessments.

Figure 6 recapitulates unemployment rate by accumulated years of labour market experience. Of the two previous regimes observed for youth unemployment, the first one tends to disappear as Germany and Austria show a slight but consistent declining trend as experience grows. Still, these countries differ strongly from some others in terms of the limited extent of unemployment. For the least experienced new entrants, the spread of the unemployment rate is wider; it ranges from 50% in several countries to about 10% in Luxembourg. But for a similar unemployment rate, the situation will be very different according to the average length of unemployment spells. If the spells are short, unemployment is mostly transitory. If new entrants stay unemployed for a long period, their disadvantage is more acute. Figure 6 also indicates the respective part of unemployment spells that last for less and more than one year. It clearly shows that, apart from Greece and Italy, long spells are not related to labour market experience while recently begun spells are experience-dependent. Greece and Italy differ as they present experience-dependent relationships for the two types of unemployment spells.

Mobility of new entrants on the labour market

One can expect that juniors are a dynamic group on the labour market, experiencing numerous moves from and to jobs. After leaving the ETS, many of them are simply entering the labour market without holding already a job. This lack of established position induces a generalised searching process. However, it is worthwhile to mention that a minority of them has already a job by the time of leaving. They are juniors who have got a job during their education and training course and a part of them keep this job after leaving the ETS. The main flow of those juniors staying within the same company comes from apprenticeship. Some employers indeed choose to keep apprentices they have trained with a new labour contract[4]. However such agreements are not a general rule. In addition to that basic reason, others come from the economic literature, applying on both sides of the labour market, in order to explain the increased mobility of juniors. First, as presented in the job search theory, the process of seeking opportunities for a good job is costly. Lower level jobs may be chosen in order to reduce search costs. Those jobs are more or less considered as short-term positions that have to be upgraded later. Secondly, even when a job opportunity appears to fulfil individual requirements, there is still uncertainty about the actual characteristics of the job. Thus the quality of matching between the individual and the post has to be established and can lead to job quit (Jovanovic 1979). This matching process is not specific to the youngest workers but one can expect it to decline with experience. On the other side of the labour market, the job matching process also applies for employers, who may not be satisfied with newly hired people. The more complete and comprehensive the qualification signal is, the less often mismatches occur. The less precise the signal is, the more cautious employers will be. Fixed-term contracts play a role as a screening tool in order to test performance on the job. Apart from the uncertainty linked with the establishment of a new labour relationship, employers don't always look for permanent workers. They may prefer to use temporary workers in the production process in order to regulate production activity.

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[4] There is no possibility of analysing such a flow in CLFS.

Although CLFS does not offer much longitudinal data, it is possible to build indicators of labour market changes between the date of the survey and one year before, as is available in panel data[5]. We first study mobility between jobs, and then we will focus on mobility between employment and unemployment.

Figures 7 & 8 sum up two indicators of exits from jobs and entries in jobs. The first is the ratio of those who had left the job they held last year among all those who held a job the year before while the second is the ratio of entries to jobs related to the total group of juniors. As the two indicators do not have the same basis of calculation, they are not comparable. The entry measure reveals the relative ease with which juniors can enter companies, the exit measure indicates the instability of these job positions. The two measures show among European countries that mobility – both from and into jobs – dramatically and linearly

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[5] Combining the current situation, the situation one year before and the potential seniority in job (computed from the entry date to the company), one can construct different indicators of moves from and to jobs. These indicators raise some methodological issues as position on the labour market is not measured in the same way at the two dates. At the time of survey, ILO criteria are applied to identify work situations, unemployment and inactivity while main situation is declared by people interviewed for the situation of the previous year. However, if assumptions that such measurement biases are independent of national context, age and position on labour market at each date are verified, these indicators can be interpreted as proxies of position shifts. It is useful to remember that such indicators do not sum up all of the mobility that has occurred during the past year as numerous spells on the labour market haven't been observed.

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declines as labour market experience increases. This general trend can be interpreted as a progressive stabilisation process as experience increases.

Beyond the common tendencies concerning job mobility, national peculiarities still emerge. The levels of moves in and out vary strongly across countries. As the most contrasting countries, Spain is characteristic of massive junior mobility while Italy and Greece experience weak junior mobility. As a result, the Spanish share of job exits is about three times the share of the two others. Quite a similar statement applies to entering jobs where the Spanish ratio is twice the Greek one. However, the flexibility of junior activity appears to be partly related to flexibility in the national labour market. In Spain, the share of job exits among more experienced workers is still three times greater than the share observed in Italy or Greece. The analysis of relative risks of moving jobs shows simultaneously higher risks for juniors to have left jobs and to have entered new jobs. National variations highlight countries where juniors have a more vulnerable situation in the labour market.

In the same way, indicators of mobility between unemployment and jobs can be constructed. First, the mobility from job to unemployment, usually called vulnerability to unemployment, indicates a relative fragility on the labour market as it reveals the existence of latency periods between two jobs. In contrast, mobility from unemployment to a job indicates the relative ease of exiting unemployment. This analysis differs from the previous analysis of mobility as it is focuses on an undesirable event that does not have the same prevalence across EU countries (Figure 9). Here, national situations fail to converge. Different configurations appear. The first characterises countries in terms of weaker positions for juniors on the labour market. The risk of switching from employment to unemployment is increased for juniors in Spain, France, Sweden and United Kingdom. The second configuration singles out asymptomatic conditions of switching between employment and unemployment for juniors relative to their elders. Greece and Italy illustrate this profile. The third configuration is dominated by favourable prospects concerning unemployment for juniors. Compared to more experienced workers, they have a greater ability to move from unemployment to a job, without being affected by a dramatic increase in their vulnerability. The Netherlands represents the most typical example of this profile.

This picture of mobility shows the LM operating with more flexible rules for juniors than for other categories of manpower. As a result of increased mobility, will it be possible to relate more flexible job positions to the specific working conditions offered by companies?

Work conditions of new entrants: more temporary contracts and involuntary part-time jobs

In modern industrial societies full-time salaried employment is dominant. On one hand, other forms of employment -such as self-employment and family worker status- have long been relegated to specific economic activities or occupations. On the other hand, part-time work, albeit expanding, still affects a minority of workers even if its relative importance varies among EU countries. Again, among different forms of labour contracts, the full-time permanent one has emerged as the standard type of employee/employer relationship. Although the labour legislation concerning these full-time 'permanent' contracts differs from one EU country to another in various ways (the trial period specified, working hours legislation or redundancy rules, among other elements), it always offers a national standard platform for the labour relationship. Opposite to this standard, several particular forms of salaried jobs have arisen. Among them, the two most common forms are fixed-term (or 'temporary') contracts and part-time activity. Still, their prevalence still depends on the restrictive nature of national regulations.

We focus here on the relative importance of those two forms of salaried employment. The involuntary nature of these employment conditions will be stressed as an indication of new entrants' dissatisfaction with their employment outcomes.

Temporary contracts as a specific mode of hiring new entrants

Temporary contracts are not equally developed among EU countries. The case of Spain, where they have a massive impact, differs strongly from other countries, as Austria or Luxembourg, where they hardly exist. Countries where these employment contracts are widespread, have a common profile (Figure 10). It is characterised by high initial levels for the least experienced new entrants with a linear decline as experience increases. The Spanish case has to be singled out, as this form of contract represents the mainstream labour relationship for juniors. It only falls below 50% of salaried contracts after about seven years of LM experience. Involuntary temporary contracts are more prevalent in countries where temporary contracts are commonly used.

Figure 7: Ratio of job exits (people having left their job among people with same LM experience who held a job one year before)

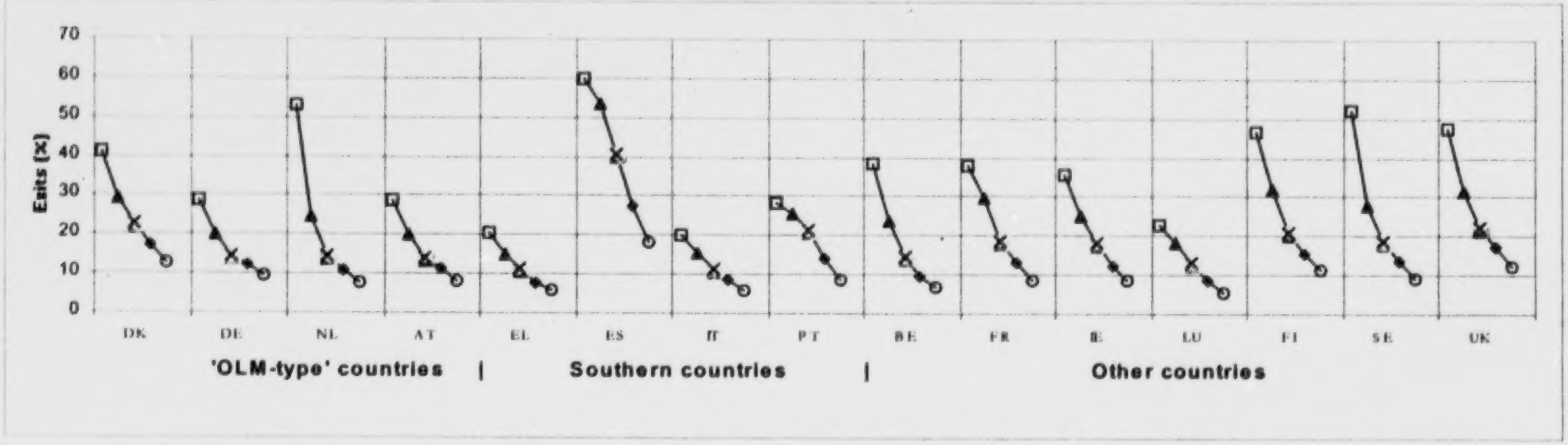

Figure 8: Ratio of job entry (people holding a job for less than a year among people with same LM experience)

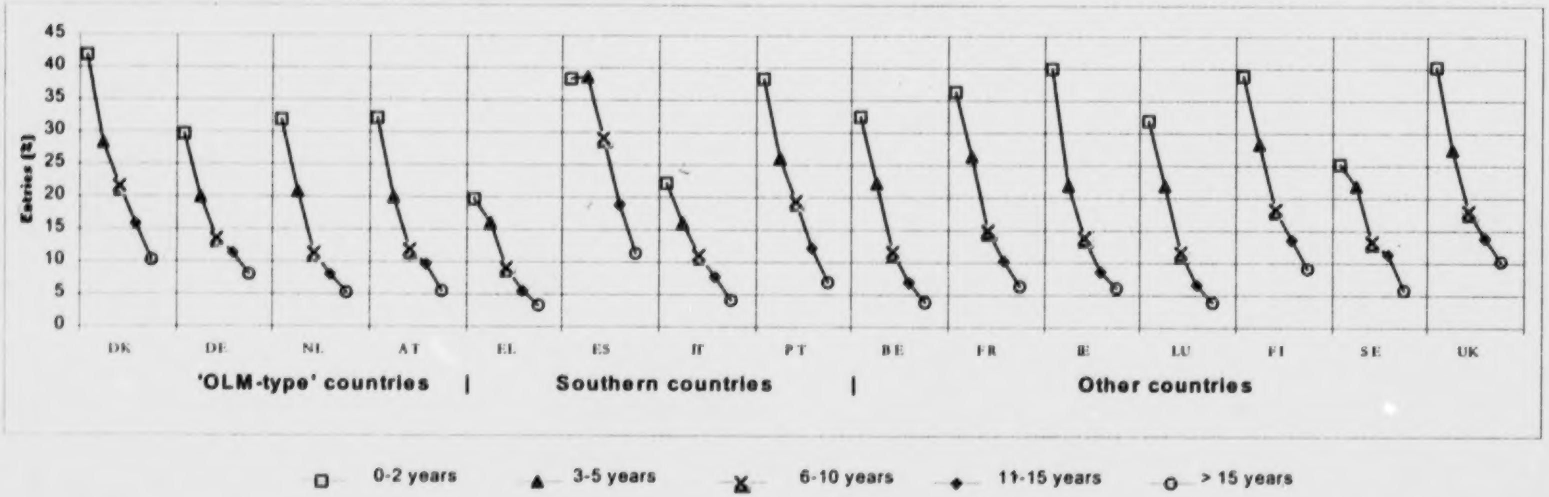

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Figure 9: mobility between unemployment and employment, by experience on the labour market

Figure 9a : “OLM-type” countries

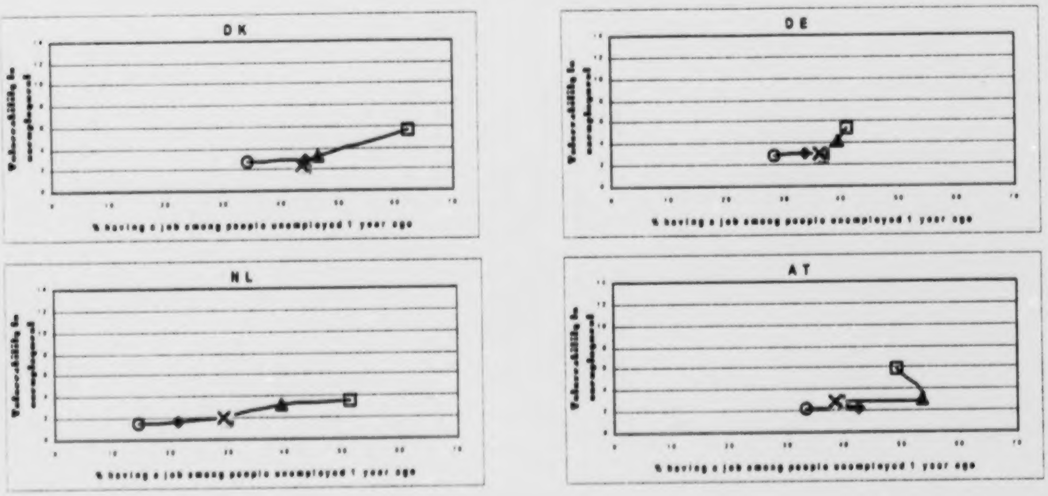

Figure 9b: Southern countries

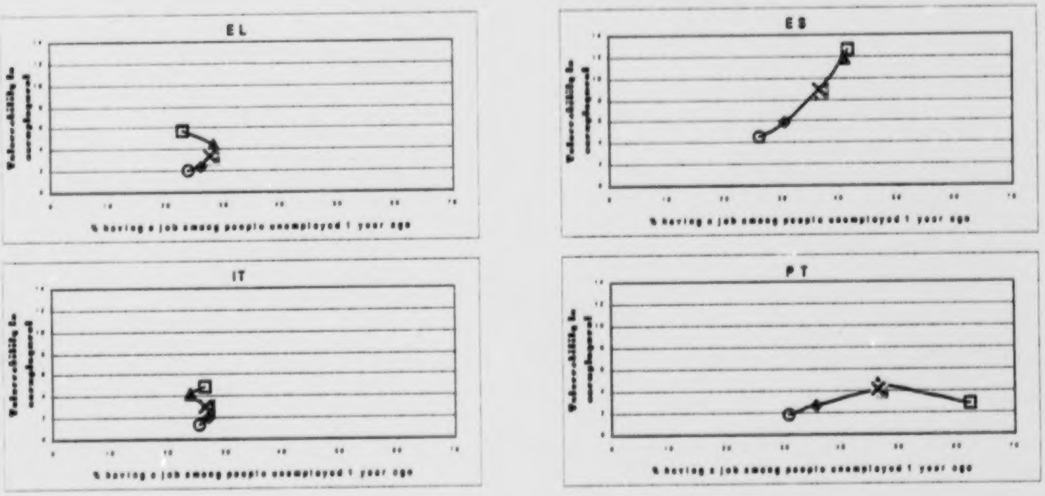

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Figure 9c: Other countries

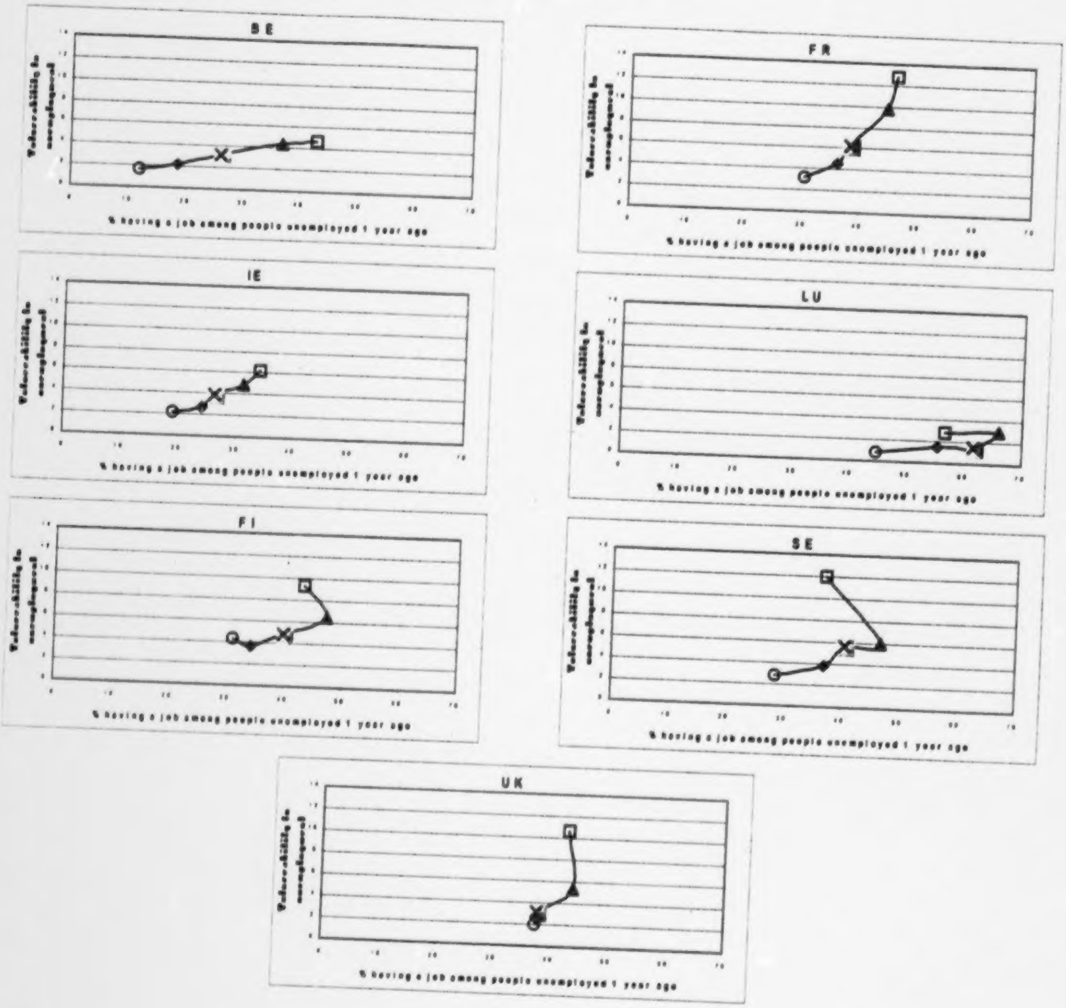

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Figure 10: Temporary contracts and years of experience on the labour market among employees

Figure 10a : "OLM-type" countries

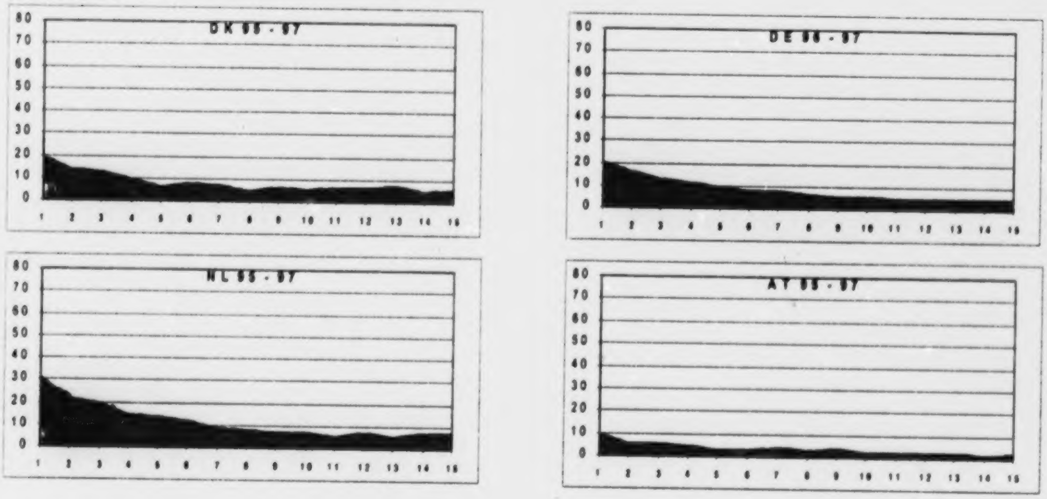

Figure 10b: Southern countries

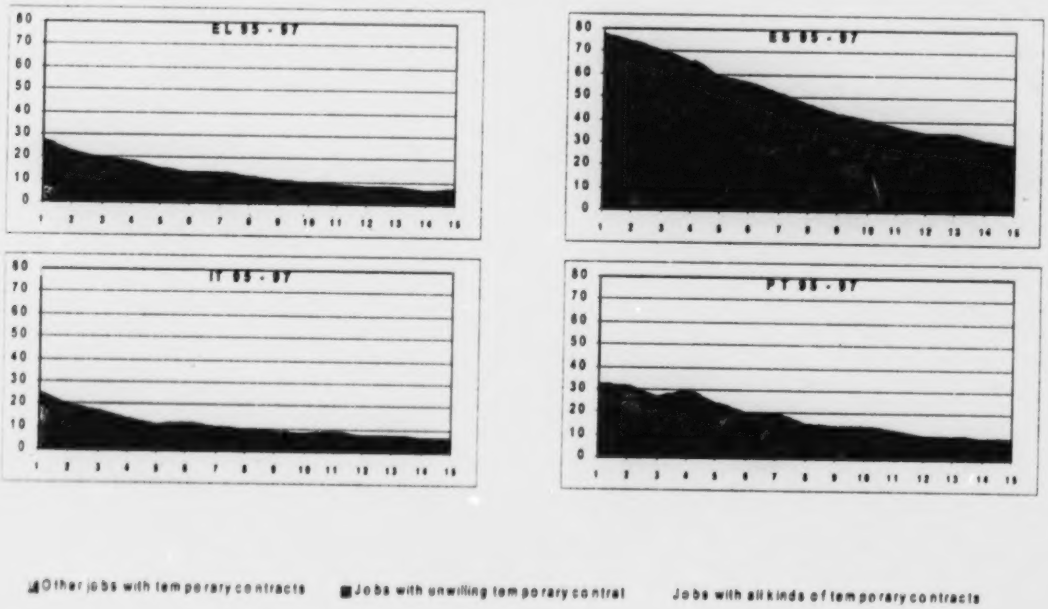

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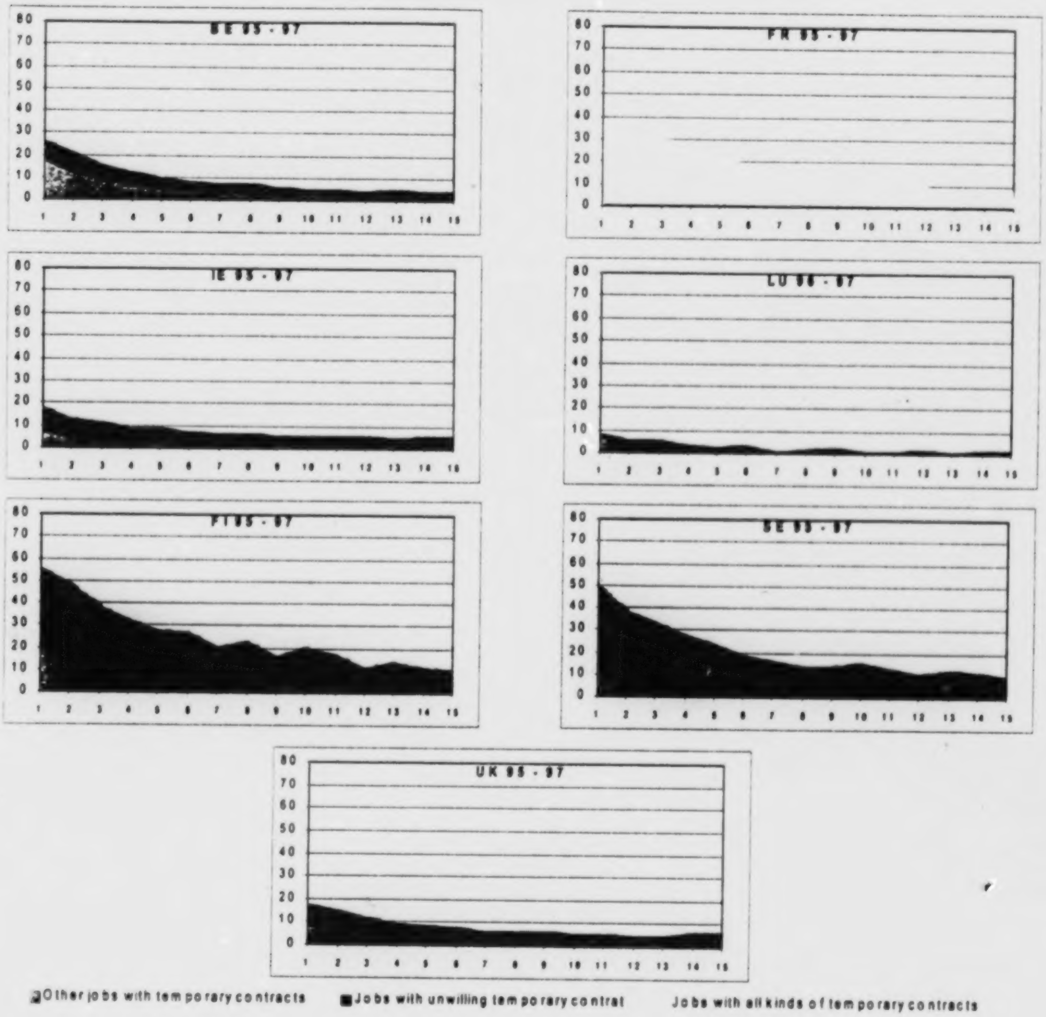
Figure 10c: Other countries



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Figures 11: Part-time contracts and years of experience on the labour market among employees

Figure 11a: "OLM-type" countries

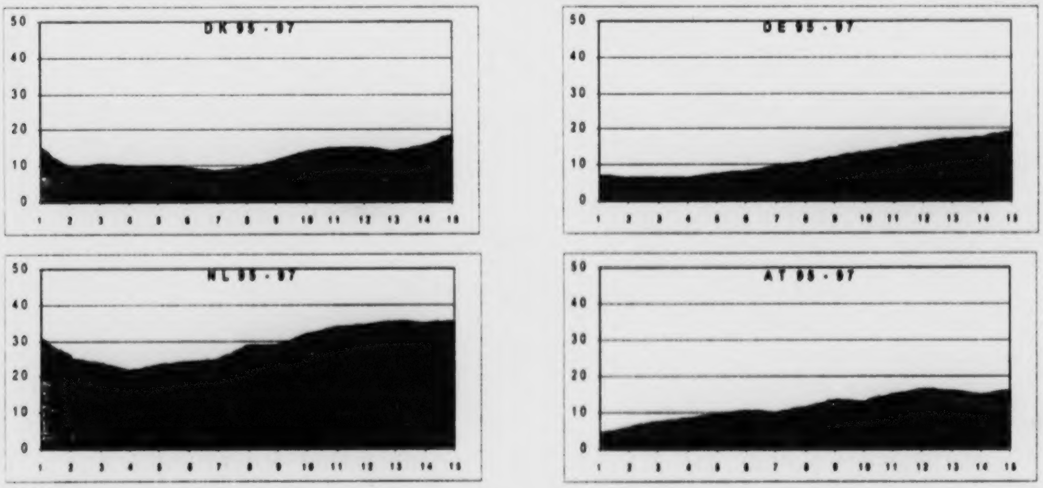

Figure 11b: Southern countries

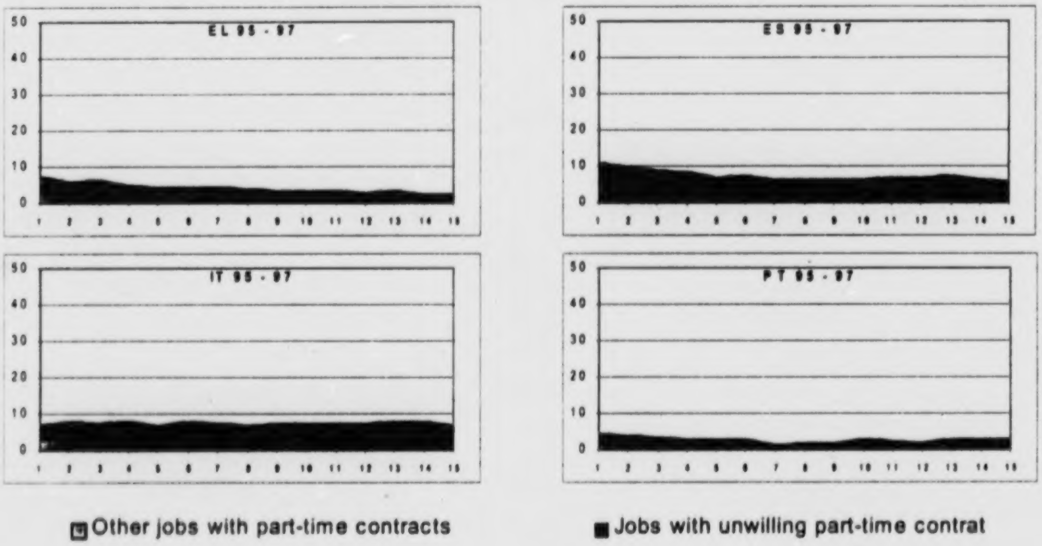

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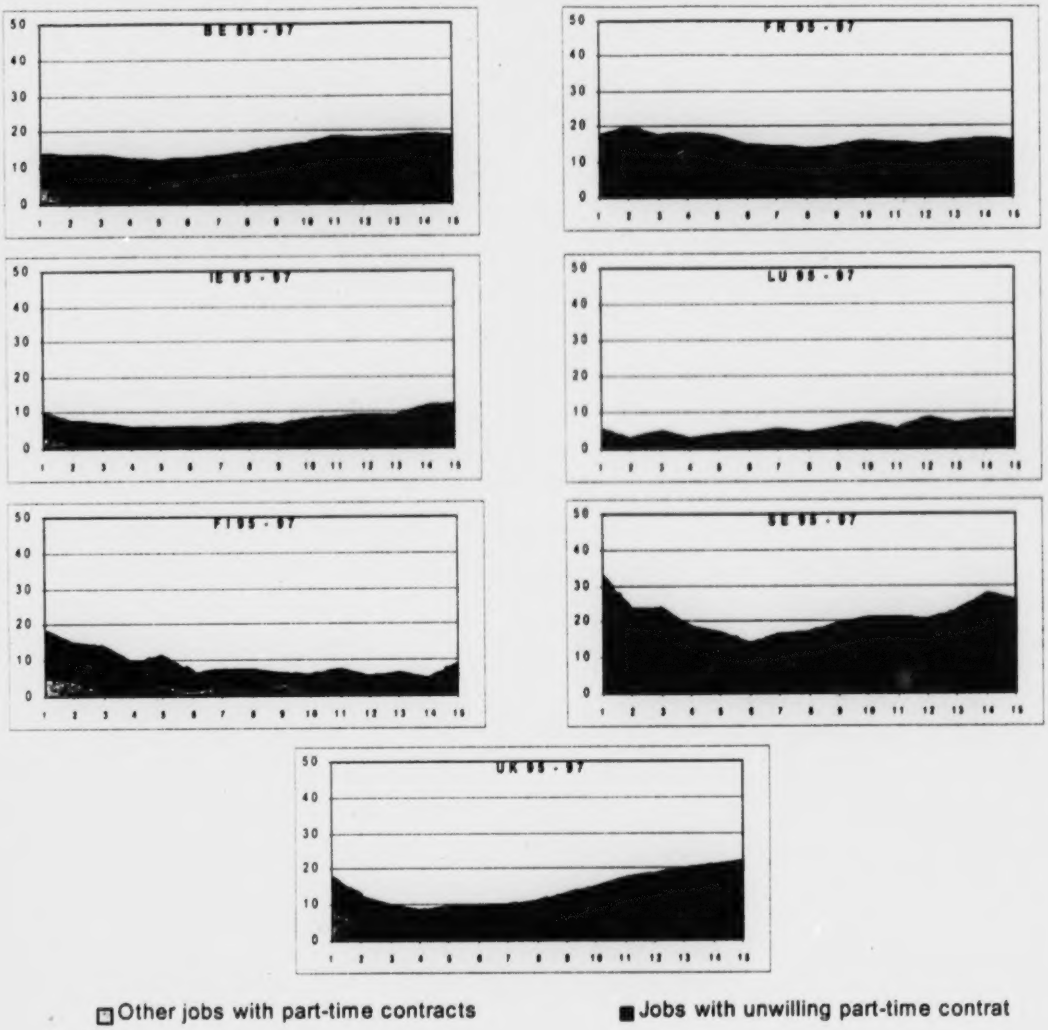
Figure 11c: Other countries



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Part-time jobs and new entrants: a link structured by the involuntary dimension of the labour relationship

As for temporary contracts, the extent of part-time jobs is fairly dependent on national context. Commonly used in northern countries (Denmark, the Netherlands and Sweden), they are more unusual in southern countries (Portugal, Greece and Spain). However, their impact on new entrants' situation differs from that of temporary contracts. The trend is rather the reverse; the level of part-time jobs remains at least constant as experience grows, and in fact generally increases with the accumulation of experience (Figure 11). In some countries, where they are extensive, their frequency according to experience shows a U-shaped curve with first a slight decrease and then a recovery. As a result, part-time jobs as a whole do not present a specific-dependent link with labour market outcomes for new entrants.

Introducing the subjective involuntary dimension of such a relationship leads us to modify our results. These kind of part-time jobs vary in their prevalence across countries. Almost absent in Luxembourg and Austria, they reach their maximum level in France, Sweden and Finland. In countries with a significant initial level of involuntary part-time work, its level declines with experience. Moreover, as experience increases, the decrease in involuntary part-time jobs is balanced by the increase in other kinds of part-time jobs.

Quality and characteristics of jobs: which occupations and companies for new entrants?

Apart from the specific features of employment access and employment conditions, companies allocate new entrants to specific activities. First, companies that choose to hire new entrants have specific features. Second, the positions held by new entrants within companies are somewhat distinctive. The way employers reward the qualifications achieved by new entrants is a third issue.

Companies: private individual services and business services are the most favourable economic activities for new entrants

The main issue about companies hiring new entrants is to determine whether or not they have particular recruitment policies. If it is so, companies open to new inexperienced workers may be differentiated from the others. As a result, new entrants should be concentrated in a specific type of companies. However, it is important to keep in mind that the available information (CLFS) is basically stock data. It means that shifts in the national structure of companies cannot be taken into account.

First, the industrial allocation of juniors shows some convergent features across EU countries (table 3). Tertiary activities appear to be dominant in all countries while agriculture has a reduced impact in most of them. Among tertiary activities, wholesale and retail trade has a strong impact. Nevertheless, national peculiarities are numerous. The most striking examples can be summarised briefly. Agriculture is important in Greece while industry is most developed among working juniors in Italy, Portugal and Ireland. Financial services are well developed in Luxembourg. Health services have an important weight in Sweden, Denmark, Finland and the Netherlands. These examples clearly show that the economic activity of companies hiring juniors partly reflects the national structure of economic activities.

Table 3: Structure of economic activities for juniors - average 95-97

%

Economic activities (Nace)	DK	DE	NL	AT	EL	ES	IT	PT	BE	FR	IE	LU	FI	SE	UK	EU 15
Agriculture	3	2	4	3	12	5	7	5	2	3	5	3	4	2	2	4
Industry (excluding construction)	21	22	15	23	16	21	36	30	22	21	27	10	24	22	21	23
Construction	5	9	7	9	6	10	9	13	7	5	7	9	4	5	6	8
Wholesale & retail trade	17	14	22	20	24	19	18	15	16	17	17	17	14	17	19	18
Hotels & Restaurants	3	4	4	8	9	7	6	6	5	5	8	5	4	7	7	5
Transport & communication	6	4	5	5	4	3	2	3	6	4	2	5	5	6	5	4
Financial services	3	5	4	3	3	3	2	2	4	3	4	14	1	2	6	4
Business activities	9	8	12	6	7	9	7	7	9	13	8	8	8	11	10	9
Public administration	6	10	6	5	5	4	3	4	6	6	3	11	4	3	4	6
Education	6	5	4	5	7	6	2	7	10	7	5	6	10	5	4	5
Health	16	10	13	7	3	5	3	4	11	9	7	8	15	17	8	8
Other service activities	4	5	4	5	6	7	5	5	4	6	6	5	6	4	6	6
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Eurostat, LFS

Indeed, once the national structure is taken into account, the pattern shifts somewhat. Table 4 shows the relative concentration of juniors across different economic activities. The index is calculated by comparing the share of juniors in a specific economic activity with their share in total employment. The results strengthen our initial impression of convergence among countries although they indicate that different economic activities play an important role in juniors' employment. By and large, private individual and business services appear to have a dominant role. Hotels and restaurants have the highest degree of over-representation of juniors, followed by business activities, wholesale & retail trade and financial services. On the other hand, agriculture, transport & communication, public administration and Education are under-represented activities in juniors' employment. Industry, construction and health show a balanced representation of juniors. Some converging trends among EU countries emerge: under-representation of juniors in agriculture for almost all the countries and general over-representation in hotels & restaurants. Industry, construction, education and financial services display more diversity across Europe. Further analysis taking account of internal business cycle of economic activities would partly help to explain such variations. For example, the period of 1995 to 1997 was one of a booming business cycle in Ireland, especially in manufacturing industry.

Table 4: relative concentration of juniors in economic activities - average 1995-1997

Economic Activities	DK	DE	NL	AT	EL	ES	IT	PT	BE	FR	IE	LU	FI	SE	UK	EU 15	Ratio EU-15
Agriculture	-	--	=	---	--	--	=	---	--	--	---	-	--	--	-	--	0,69
Industry (excluding construction)	=	-	-	=	=	=	++	++	=	=	++	--	=	+	=	=	1,06
Construction	-	=	=	+	=	=	=	++	=	-	-	=	--	-	-	=	0,98
Wholesale & retail trade	+	=	++	+	++	+	=	=	=	+	+	+	+	++	+	+	1,16
Hotels & Restaurants	+	+	+	++	+++	+	++	+	++	+++	++	+	+++	+++	++	++	1,35
Transport & communication	-	-	-	-	--	--	---	--	-	--	--	-	-	-	-	-	0,73
Financial services	=	++	+	-	=	=	-	-	=	=	+	++	--	-	++	+	1,12
Business activities	+	+	+	=	+++	+++	+	+++	++	++	++	++	=	+	=	+	1,26
Public administration	=	+	-	-	--	--	---	--	--	--	---	-	-	---	-	-	0,77
Education	-	=	--	-	+	+	---	=	=	=	-	=	++	--	--	-	0,78
Health	=	+	=	=	-	=	--	-	=	-	-	=	=	-	-	=	0,91
Other service activities	-	=	-	+	+	=	=	-	=	=	=	=	+	-	+	=	1,00

Source: Eurostat, LFS

Reading guide :

= if the ratio between the share of juniors in the economic activity and the share of juniors in all the economic activities is between 0,9 and 1,1.

+ if the ratio is between 1,1 and 1,3.

++ if the ratio is between 1,3 and 1,5.

+++ if the ratio is over 1,5.

- if the ratio is between 0,7 and 0,9.

-- if the ratio is between 0,5 and 0,7.

--- if the ratio is under 0,5.

positive signs indicate an over-representation of juniors in economic activities, negative signs indicate an under-représentation of juniors.

Beyond the focus of juniors' employment towards specific economic activities, the issue of an overall trend of concentration in specific businesses remains. Table 5 analyses an indicator of such a measure of concentration. It presents the coefficient of variation of juniors' share among economic activities. This coefficient equals the ratio of the standard deviation of juniors' share by its mean. The greater the coefficient, the wider is the dispersion of juniors' share across economic activities. A high value indicates a tendency of juniors to be concentrated in some economic activities while a low value conversely indicates that juniors are more widely spread out across economic activities. The results indicate significant variations between countries. On one side, Italy and Greece show a high degree of concentration relative to other countries. On the other side, Germany and Denmark show a low degree of concentration. This can be interpreted as a more open economy in the latter case and a more stratified economy with new entrants confined to certain economic activities in the former.

Table 5: Coefficient of variation of juniors' share across economic activities (all %)

	Standard deviation	mean of juniors share in the economic activity	Coefficient of variation - 1997
DK	2,0	14,0	17,7
DE	2,0	9,0	18,6
NL	2,0	9,0	21,6
AT	2,0	10,0	23,8
EL	3,0	9,0	37,9
ES	3,0	11,0	27,5
IT	4,0	9,0	42,6
PT	3,0	8,0	38,8
BE	2,0	10,0	23,6
FR	2,0	8,0	28,0
IE	5,0	15,0	35,5
LU	3,0	9,0	32,9
FI	2,0	9,0	25,3
SE	3,0	8,0	38,6
UK	2,0	9,0	28,1

Source: Eurostat, LFS

Having taken a look at the profile of companies hiring them, the focus is now on the occupations new entrants hold.

Occupations: the importance of *service workers and sales workers* ***for new entrants***

The main issue raised by the occupational structure of new entrants' jobs relates to potential occupations. Does the integration process imply open or closed occupations to new entrants? The national occupational structure of employed juniors, using the ISCO classification, appears to be largely influenced by economic activities (table 6). Although there is no strict correspondence within companies between their economic activity and their occupational positions, the links are quite strong. Two examples show the existence and the limits of such links. In Greece, agricultural activity represents 12% of juniors' employment, while skilled agricultural workers are at the same level. We have earlier pointed out that industry is the most developed in Italy, Portugal and Ireland among working juniors. We now observe that blue collar groups (ISCO 7 to 9) are the most developed in Italy and Portugal, followed by Ireland, Spain, Austria and Sweden. The three latter countries nevertheless have a less significant share of manufacturing industry activity. Nevertheless, national occupational structures show wide variations from one country to another. The relative importance of upper white collar groups (technicians, professionals and managers, ISCO 1 to 3) varies dramatically between Italy (16% of juniors' jobs) and Finland (43%). However, these variations again partly reflect the differentiation of the overall occupational structure.

Table 6: Structure of occupations for Juniors - average 1995-1997

%

Occupations (ISCO-88, first digit)	DK	DE	NL	AT	EL	ES	IT	PT	BE	FR	IE	LU	FI	SE	UK	EU 15
1=Managers	4	2	4	3	4	2	0	2	6	5	4	2	5	1	8	4
2=Professionals	16	17	15	9	13	17	5	13	25	14	17	20	26	14	11	14
3=Technicians & associated professionals	17	21	19	12	7	7	11	9	10	19	4	16	12	14	9	14
4=Clerks	14	14	15	16	14	12	15	10	16	16	17	20	5	11	23	16
5=Service workers & sales workers	18	14	17	20	24	19	18	16	13	15	22	15	16	23	19	17
6=skilled agricultural workers	2	1	2	2	12	2	2	2	2	3	2	3	3	1	1	2
7=Craft & related trades workers	12	20	12	25	16	14	28	30	14	11	17	15	16	13	12	17
8=Plant & machine operators & assemblers	7	5	7	7	5	8	11	5	7	9	8	4	10	14	7	7
9=Elementary occupations	10	6	8	6	5	17	8	13	7	7	9	7	7	10	10	9
All	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Eurostat, LFS

If the relative concentration is examined (Table 7), they are found to be concentrated in two occupational groups - service workers and sales workers. Clerks and professionals represent two groups open to juniors, except in some countries (Italy for instance). Conversely, juniors are strongly under-represented among skilled agricultural workers and managers and, to a lesser extent, the machine operators and assemblers group. Other groups (technicians, craft workers and elementary occupations) have a more balanced representation of juniors at the European level. However, national comparisons reveal a high degree of differentiation between countries in these groups. The national summaries show impressive contrasts between countries. Besides Denmark showing the least marked variation of juniors in the occupational structure, Italy and France present two contrasting patterns. Juniors are over-represented in blue-collar groups (apart from elementary occupations) in Italy but under-represented among these groups in France. Conversely, French upper white collar positions (apart from managers) represent an important outlet for juniors while such positions are more or less closed to them in Italy.

Table 7: Relative concentration of juniors in occupations - average 1995-1997

Occupations (ISCO 88)	DK	DE	NL	AT	EL	ES	IT	PT	BE	FR	IE	LU	FI	SE	UK	15	EU-15
1=Managers	--	---	---	---	---	---	---	---	--	--	---	---	--	---	--	---	0,46
2=Professionals	+	++	=	-	=	+++	---	+++	++	++	=	++	++	=	-	+	1,11
3=Technicians & associated professionals	=	=	=	=	+	=	-	-	=	+	=	=	-	--	=	=	0,99
4=Clerks	=	=	+	+	+	+	=	=	=	+	+	+	--	=	++	+	1,14
5=Service workers & sales workers	+	+	++	+++	+++	++	+	+	++	+	+	++	+	++	++	+	1,28
6=skilled agricultural workers	-	--	++	---	--	---	--	---	--	--	---	=	---	---	-	--	0,55
7=Craft & related trades workers	=	=	+	++	=	-	++	++	=	-	++	=	+	=	=	=	1,06
8=Plant & machine operators & assemblers	-	--	=	-	--	-	+	-	-	-	-	---	+	+	-	-	0,83
9=Elementary occupations	-	--	=	--	-	+	-	+	-	=	=	--	-	+++	+	=	0,93

Source: Eurostat, LFS

Reading guide :
= if the ratio between the share of juniors in the occupational group and the share of juniors in all the occupations is between 0,9 and 1,1.
+ if the ratio is between 1,1 and 1,3.
++ if the ratio is between 1,3 and 1,5.
+++ if the ratio is over 1,5.
- if the ratio is between 0,7 and 0,9.
-- if the ratio is between 0,5 and 0,7.
--- if the ratio is under 0,5.
positive signs indicate an over-representation of juniors in occupational groups, negative signs indicate an under-representation of juniors.

More about the Links between the ETS and the LM: some insights on the importance of educational attainment in the transition from school-to-work

Until now, we have focused on the general patterns of labour market entry in the EU countries, restricting the contribution of educational background to the issue of the biographical timing of leaving ETS. This has led us to neglect the importance of educational attainment. Here we want to briefly outline some individual effects of educational attainment in the school-to-work transition. We focus only on a few indicators to stress the key role of education in LM outcomes. Firstly, we study the impact of educational attainment on unemployment risks. Secondly, the mobility between jobs and unemployment is presented. Thirdly, we concentrate on the returns to educational qualifications across occupations.

Unemployment by level of education attained

Introducing the educational attainment of new entrants in the analysis of the unemployment risk by labour market experience yields a more scattered picture than is evident at a more general level (Figure 12). Three configurations emerge in relation to the impact of the two dimensions. The first one is mainly ruled by the dominant effect of educational level attainment and a corresponding residual effect of experience on the unemployment rate. Conversely, the second is mainly characterised by the influential role of LM experience in conjunction with a weakened qualification effect while the third is influenced by both dimensions. Austria, the Netherlands, Denmark and somewhat Germany belong to the first configuration. They show stratified levels of unemployment by educational level attained, fairly independently of accumulated experience. Italy and Greece are the most representative countries of the second group. They show declining levels of unemployment as experience increases with a rather blurred distinction between ISCED levels. Other countries are more or less close to the third configuration combining the two effects. Belgium, France, Ireland, Sweden and United Kingdom are the most typical countries within this group. They show declining, well-differentiated unemployment rates by ISCED level as experience increases.

Figure 12: Observed Unemployment Rate and Adjusted Unemployment Rate according to years of LM experience and ISCED level

($U=1/(1+\exp(a+b_1T+b_2E+b_3E^2+b_4TE+b_5TE^2))$ with T= Training level and E=LM experience)

Figure 12a: "OLM-type" countries

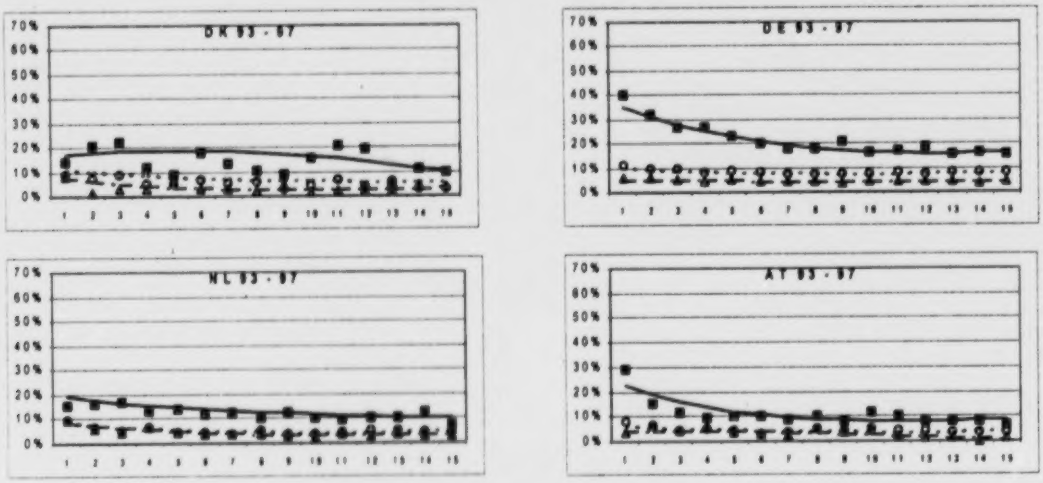

Figure 12b: Southern countries

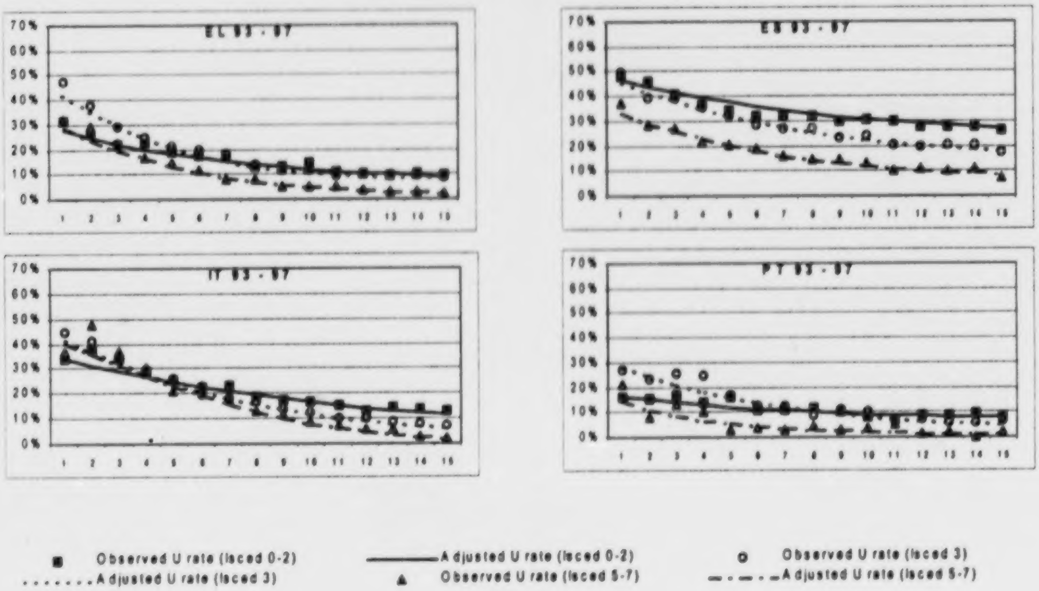

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Figure 12c: Other countries

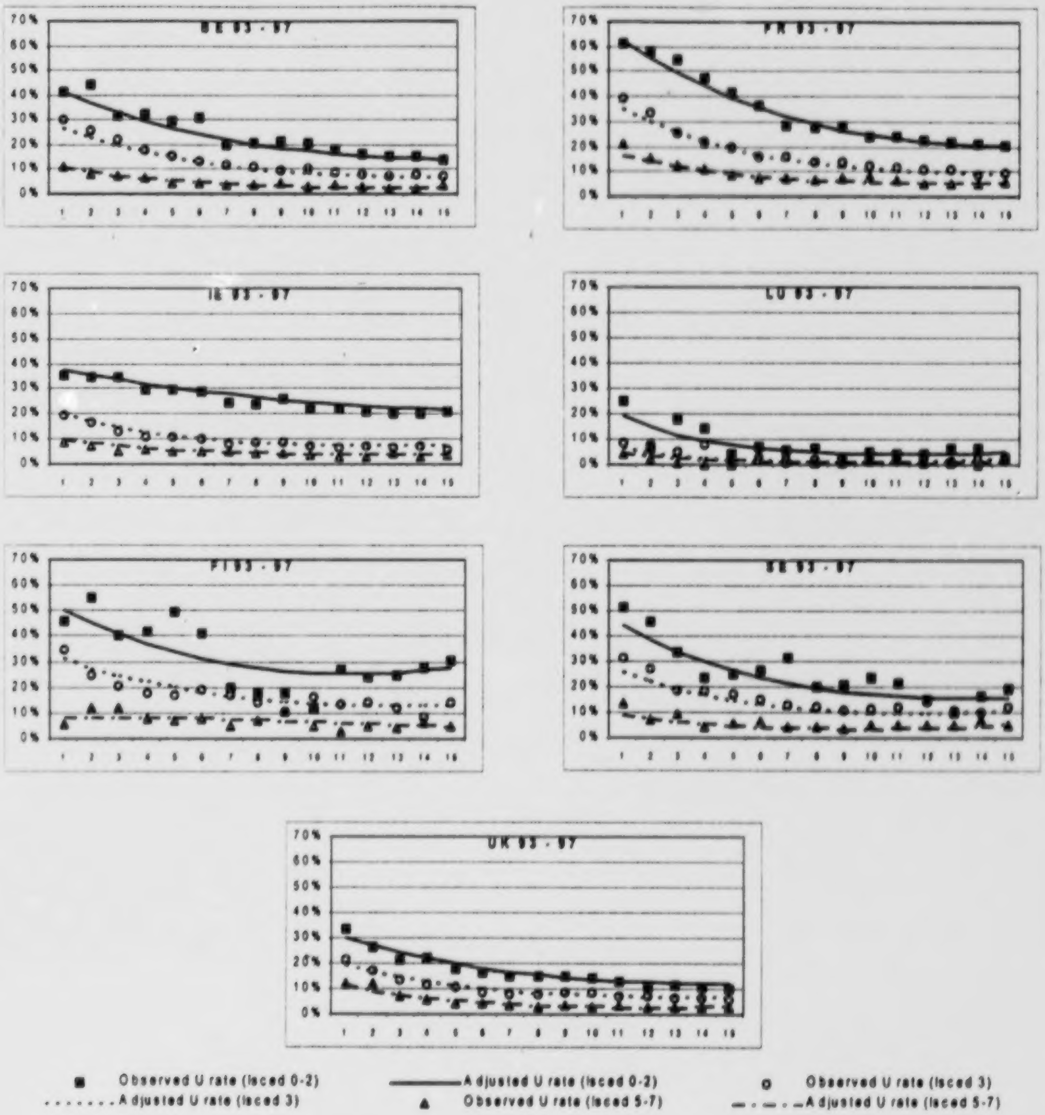
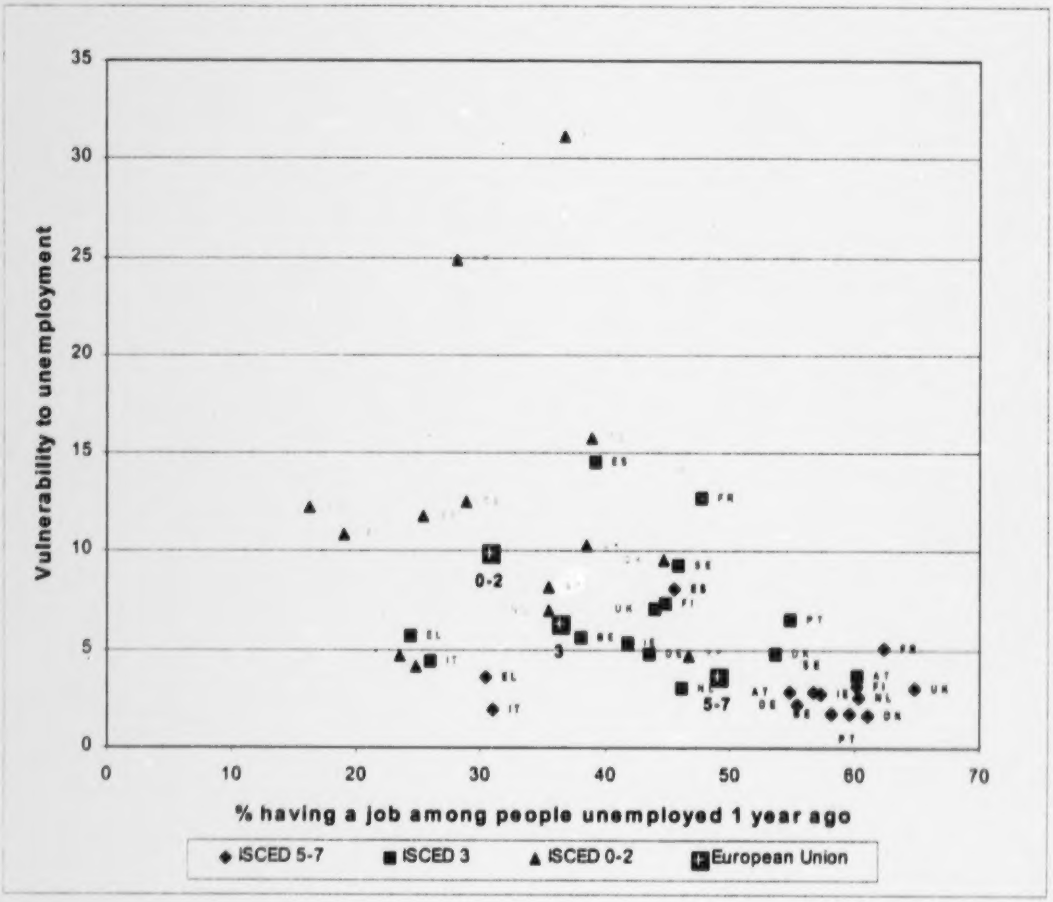


Figure 13: Transitions from employment to unemployment and from unemployment to employment for Juniors, by ISCED



Mobility between unemployment and employment by level of education attained

Going back to the analysis of the mobility between unemployment and employment, vulnerability to unemployment declines, and employment prospects for the unemployed increase with the level of qualification (Figure 13). It confirms the hierarchy of unemployment risks previously established. Moreover, this outcome is evident for most of the countries at the highest level of qualification. Only two countries show very different profiles. Italy and Greece are characterised by very little differentiation between education levels in risks and prospects with relative independence between these LM outcomes and qualification attainment inside the ETS.

Occupational returns to qualifications

The returns to qualifications achieved inside the ETS are to be questioned. It deals with the way the grading of skills and qualification structures interact.

Establishing returns to qualifications necessitates having a measure of occupation payoff. Wages are a natural measure of such a payoff, but they do not represent the only relevant dimension of the rating of an occupation. Besides work conditions (including job stability and possible hourly constraints among others) occupations are ranged on a social scale. Different ways have been developed in order to devise a graded structure of jobs based either on subjective valuation such as the prestige associated with the job (SIOP index) or on more objective criteria such as the socio-economic structure of the occupational group (International Socio-Economic Index or ISEI, see Ganzeboom and Treimann (1996) for the conversion of ISCO into ISEI). Given the availability of wages information for juniors in a limited set of EU countries (extracted from the Wages Structure Survey, 1995 from Eurostat), we have therefore two somewhat complementary measures of job payoff (Figure 14). The figure represents, for the two measures, the index calculated by relating the mean of the ISEI score (respectively wages) observed among a junior group of a given qualification level to the national mean observed among all workers. It shows that, in terms of the ISEI index, there is a sharp divide between juniors with higher education levels (ISCED 5-7) and other juniors. In some cases (Denmark, Germany, Austria, Ireland, Italy, Greece, Spain and Portugal) another less marked divide can be observed between juniors having achieved upper secondary education or training (ISCED 3) and the others (ISCED 0-2). However, the wages analysis on available countries only partially confirms such results. Higher education is still associated with an improved payoff, but the gap is more or less reduced in all countries. Moreover, the high reward - above the national mean- measured by the ISEI score in Spain, Ireland, Italy and Greece is contradicted by the wages index. This leads us to conclude that even the occupational groups entered by higher educated juniors are highly ranked and differ from those entered by juniors from upper secondary education. As a consequence, their monetary payoff tends to be sharply reduced relative both to upper secondary juniors and to more experienced workers. On the opposite side, the Danish and Austrian monetary returns structure confirms the status (ISEI) returns structure being graded by ISCED level.

Figure 14: Index of Juniors' average wages and ISEI scores by level of education (100= national means among all workers)

Figure 14a : "OLM-type" countries

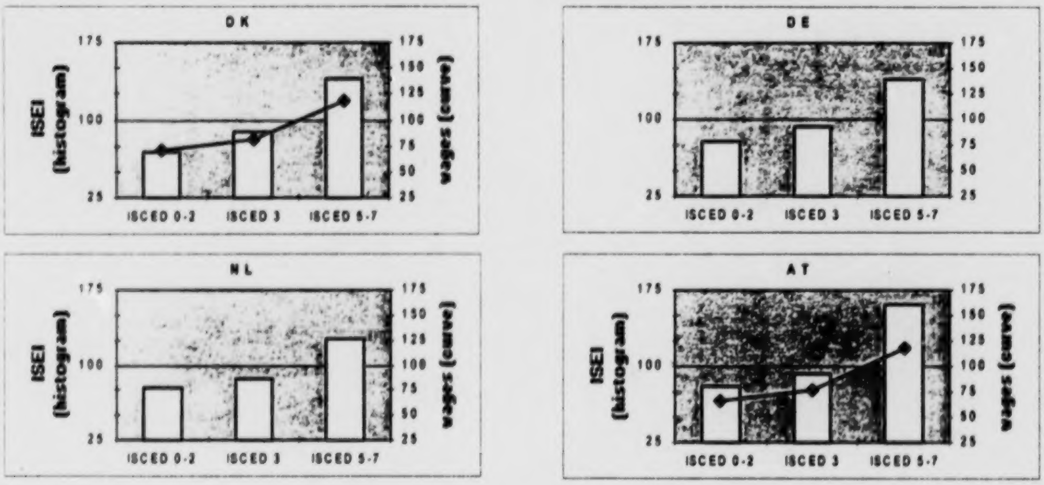


Figure 14b: Southern countries

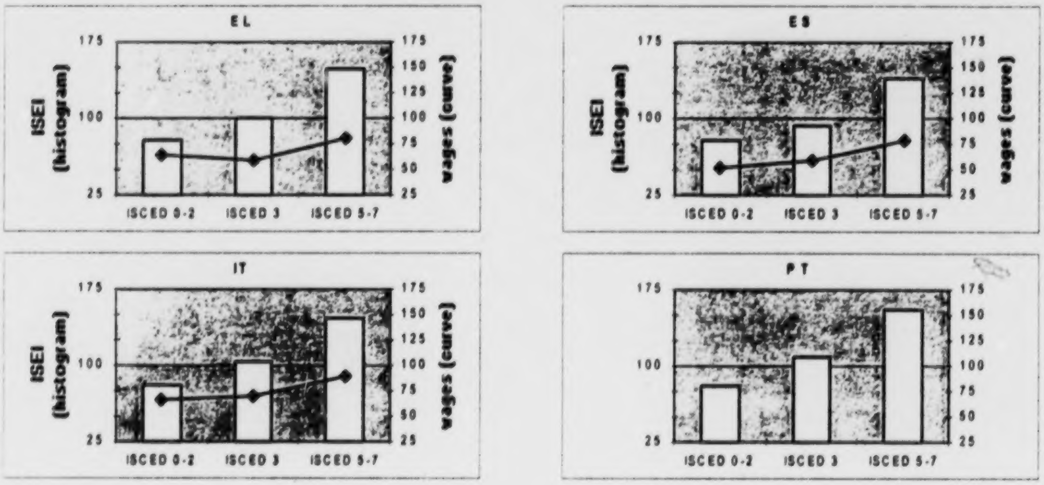


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Figure 14c: Other countries

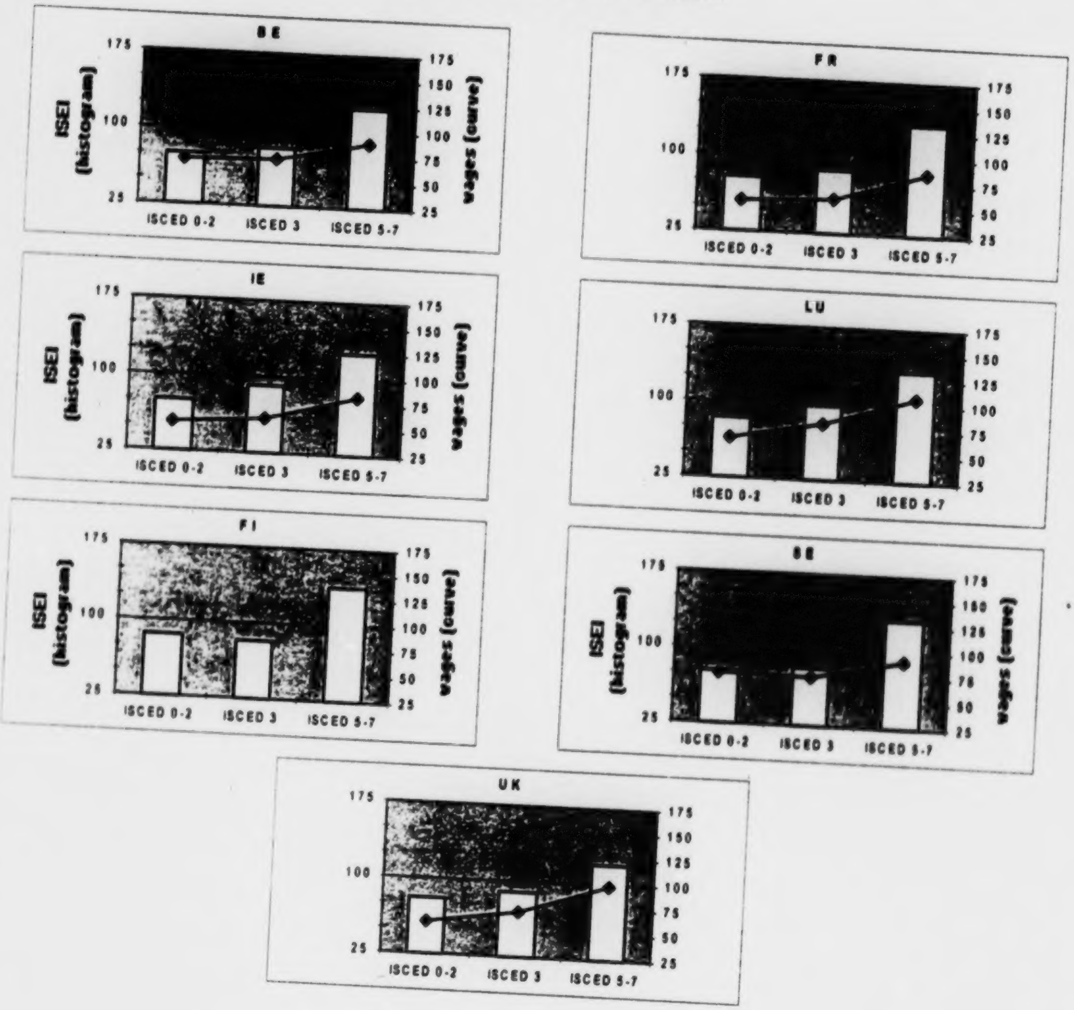

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Figure 15: Average ISEI score by ISCED level and years of experience, average 1995-1997

Figure 15a: "OLM-type" countries

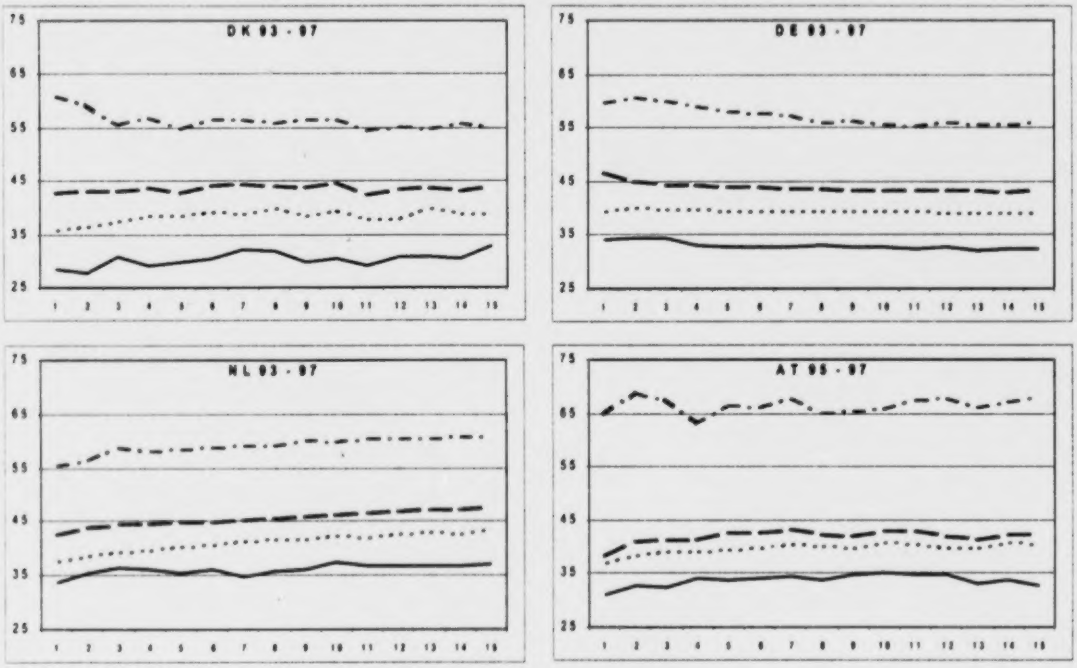

Figure 15b: Southern countries

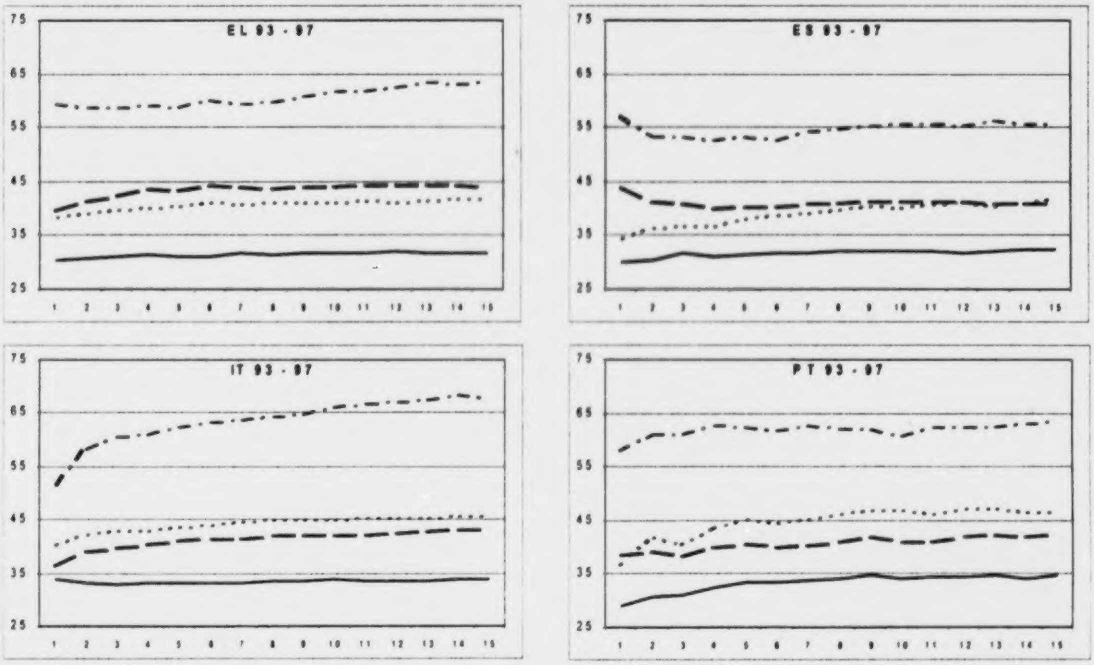

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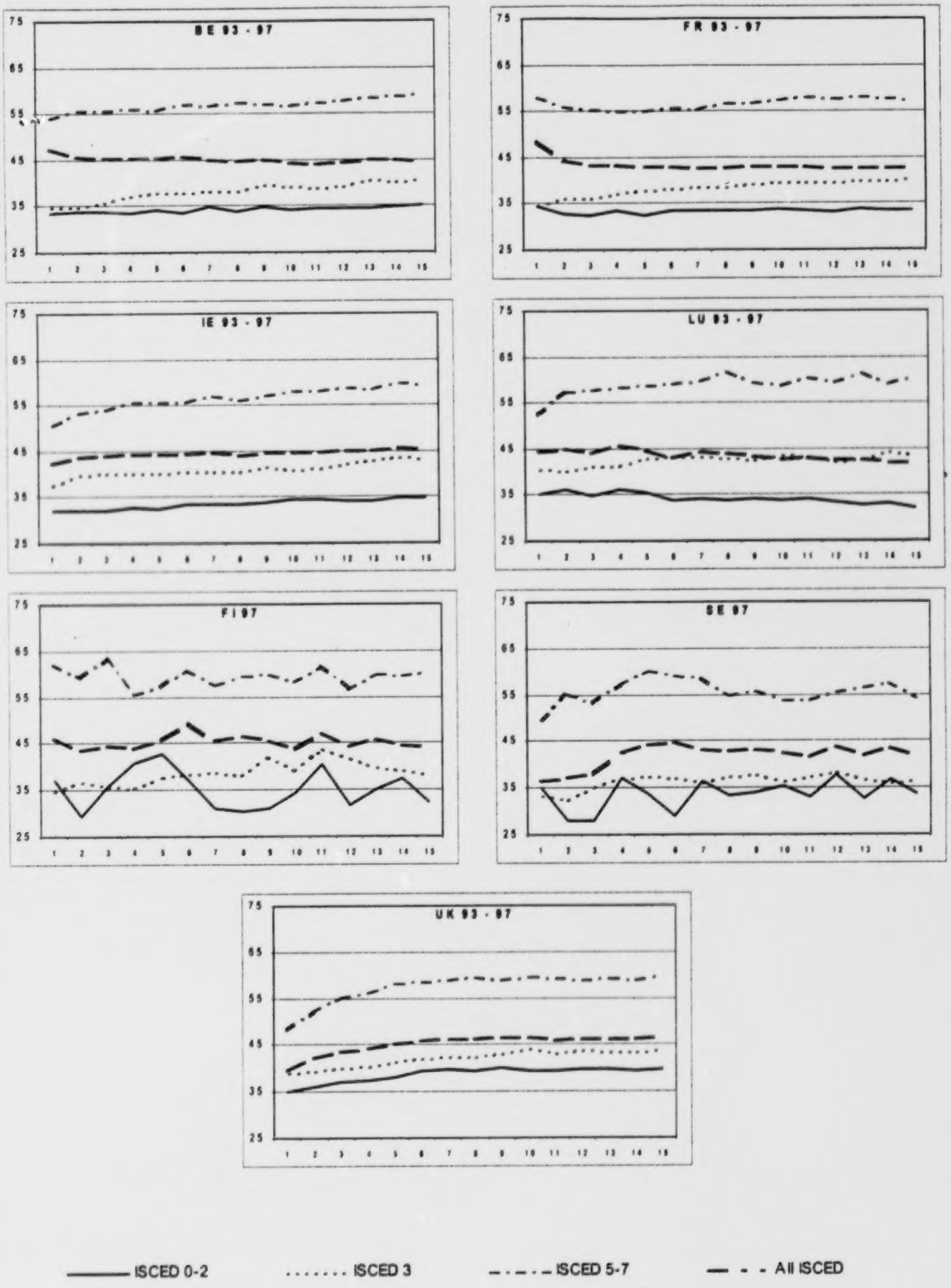
Figure 15c: Other countries



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The cross-analysis of qualification returns by accumulated years of LM experience shows again the clear differentiation of qualifications returns according to the ISEI score (Figure 15). A common feature across all EU countries is the flatness of the ISCED 0-2 ISEI curve associated with very low levels of ISEI. This indicates the lack of possible promotion to more skilled occupations. However, distinctive profiles can be identified on the basis of ISCED 3 to 7 new entrants. First, several countries have flat slopes, an indication of the independence between ISEI grading and the process of experience accumulation among the qualification groups. Germany, Denmark, Austria and Greece exhibit this profile. Denmark and Germany are even atypical as a declining trend appears with the accumulation of experience for new entrants of ISCED 5-7 level. A fairly simple explanation can be proposed for that situation ; as soon as juniors of ISCED 3 level have accumulated a minimum number of years of labour experience, they obtain the opportunity to prepare a Tecknischer or Meister certificate and to attain a ISCED 5 level. Then they enter a new segment of the labour market to occupy technician positions with the lowest ISEI values among the upper white collar group. Meanwhile, juniors having left the initial higher education system with ISCED 6-7 have already entered the labour market where they have got occupations with a high ISEI score. The conjunction of the two groups results in a declining effect on the ISEI score. Other countries show profiles with a gradual upgrading of ISEI score for one or both new entrants groups. The United Kingdom and Ireland are clear examples of ISCED 5-7 upgrading, Spain represents the case of ISCED 3 upgrading while Italy shows a simultaneous, quite strong, rise of ISEI score for the two groups. In every case, there is an interaction between qualification returns and accumulated experience.

Conclusion

Here we have roughly outlined some characteristics of labour market outcomes that occur during the school-to-work transition. First, the specificity of transitory events, such as combined training-and-working situations or high unemployment, has been assessed. Second, the switch from youngsters to new entrants has highlighted the variable role of experience in labour market outcomes. Third, the differentiation of rewards by qualifications attainment inside the ETS underlines the existence of strong links between the ETS and the economic system. Fourth, LM organisation proves to have an impact on the shape of LM outcomes for new entrants as shown by the differentiated role of legislation concerning work contracts. It raises some issues about the nature of the school-to-work transition.

The respective roles of experience and qualification raise the issue of interaction between new entrants' allocation on the labour market and the general organisation of employment relationships. Relations and competition between new entrants and more experienced workers indicated both common trends across Europe and specific national features linked to institutional arrangements. The variation of outcomes among the new entrants group led to similar conclusions.

Features of the national economic context have not been taken into account. As this paper has been mainly based on cross-sectional data (with a limited set of longitudinal information) summarised over a three-year span, it cannot describe the dynamics of the process. On the labour demand side, the state of the business cycle or the structural shift in labour demand have not been analysed. In the same way, structural changes in the labour supply such as demographic pressure or qualification shifts have not been dealt with.

The issue of the impact of national public policies on labour market has not been dealt with. There have been recently important changes in some countries. Unfortunately, CLFS prior to 1998 have too limited a set of information about such policy changes. Improvements in more recent data, including the 2000 transition module, will yield material for further analysis.

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Appendix A: the 'Juniors' as a proxy for 'new entrants' category

To construct a proxy for a new entrant category in EULFS, data are available on individuals' position relative to the ETS. First, the highest levels of general education and post-academic training attained are collected, as well as current situation concerning education and training. By drawing on the national educational contexts, we can try to reconstitute the typical ages of certification at the end of the main training routes existing in national educational systems. The quality of the match between typical and real age depends on:

- The precision of the information available on training programmes. The more the programmes are differentiated, the more precisely leaving ages can be attributed;

- The dissimilarity of behaviour among the individuals enrolled in these programmes in terms of passing exams, repeating a year, changing orientations and so forth;

- The multiplicity of possible routes amongst the different tracks and levels of training, which determines the number of possible paths to reach an exit point;

- The importance of going back to training and, more precisely, the ability to distinguish initial education and training from post-initial training.

There are numerous detailed sources of information on the organisation of training programmes in the different countries of the European Union (cf. Eurydice database[6]). To establish typical ages of certification, the OECD has analysed in each country about ten different programmes (OECD 1998). Using this information, one can calculate the typical age of certification for individuals in the European Labour Force Surveys. We assume that the certification age corresponds to the leaving age of the ETS[7]. The information is crossed with the observed age in order to calculate the expected length of time elapsed since the diploma was obtained. Different categories of individuals may thus be identified. First of all, the *'trainees'*, which include individuals who are still in a training program depending on the ETS (including alternance training programmes with the training course taking place in an establishment of the ETS), whether or not they are in the labour force or in employment[8].

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[6] At www.Euridyce.org

[7] An assumption that doesn't take into account the issue of drop out.

[8] with a restriction on age : from 15 to 35 years-old.

Second, the *'juniors'*, who represent individuals who obtained their diploma less than 5 years previously.[9] Third, the category of *'seniors'*, sometimes split in sub-categories, which corresponds to individuals whose diploma was achieved more than five years previously.

This leads to a distinction between two categories of young people with specific statuses in the school-to-work transition process: first, the trainees, then the juniors. We will focus here on the latter as the previous is treated elsewhere.

Table 1 : Typical ages of leaving the ETS according to levels of diploma, based on typical ages of preparation to the final certificate, collected by OECD

	ISCED 0-1	**ISCED 2**	**ISCED 3** (upper secondary)				**ISCED 5**	**ISCED 6**	**ISCED 7**
			by single course in …			par double course			
			general education	school-based vocational training	alternated vocational training	in general education and vocational training (a)	higher non university diploma	university diploma	post university diploma
'OLM-type' countries									
Denmark	16	19	20	21	21	23	24	26	31
Germany	18	18	19	19	19	22	21	26	28
Netherlands	18	18	19	19	20	20	-	24	27
Austria	15	17	18	18	19	19	21	24	26
Southern countries									
Greece	15	18	*19*	19	-	-	21	23	27
Spain	16	17	18	17	18	19	20	22	27
Italy	15	18	19	18	-	19	21	23	25
Portugal	15	16	17	18	18	18	22	23	26
Other countries									
Belgium	18	18	18	19	19	-	22	23	27
France	16	17	18	19	19	20	21	21	26
Ireland	15	17	18	18	18	19	20	22	24
Luxembourg	15	18	19	19	19	-	22*	23*	26*
Finland	16	18	19	19	19	21	23	24	28
Sweden	16	18	19	19	-	-	21	23	27
U-Kingdom	16	17	18	18	18	-	20	21	24

Source : inspired from *Education at a glance* OECD, Annexe 3.

(a) school-based or alternated

* : estimation based on neighbouring countries values as students attend higher education out of Luxembourg.

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[9] Thus, their age cannot exceed the maximum typical age by more than 5 years. Again there is a restriction on age, from 15 to 35 years-old.

As already mentioned in the second chapter, the structure of educational attainment among juniors varies strongly across EU countries. Almost every kind of profiles exists, from Spain, Portugal and Italy which have dominant ISCED 0-2 juniors to Belgium where the junior group with ISCED 5-7 is the largest group. Between them, Germany, Denmark, Austria, Finland and Sweden have dominant ISCED 3 levels. As a result, the average age of juniors at the time of the survey differs from one country to another. It is low for Portugal (17.1 years) and goes up for Denmark (22.2 years).

Table 2 - Juniors by level of education and training attained and their average age at the time of leaving ETS

	Juniors				**Juniors average age at the time of leaving ETS (years)**
	ISCED 0-2 (%)	**ISCED 3 (%)**	**ISCED 5-7 (%)**	**Total (%)**	
'OLM-type' countries					
Denmark	19	53	28	100	22.2
Germany	15	57	28	100	20.8
Netherlands	23	47	29	100	19.6
Austria	16	75	9	100	18.8
Southern countries					
Greece	26	53	21	100	19.1
Spain	47	16	37	100	19.3
Italy	52	41	7	100	18.3
Portugal	63	17	20	100	17.1
Other countries					
Belgium	23	36	42	100	19.7
France	18	46	36	100	20.2
Ireland	25	39	36	100	18.7
Luxembourg	36	36	28	100	19.2
Finland	17	52	31	100	20.9
Sweden	18	62	19	100	19.2
U-Kingdom	39	37	25	100	18.2
EU	32	43	25	100	19.4

Source: Eurostat - CLFS, 1995 to 1997

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WORKING PAPERS

New Entrants and Experienced Workers on European Labour Markets

Thomas Couppié
Céreq
10 place de la Joliette
F-13474 Marseille Cedex 02
e-mail: couppie@cereq.fr

Michèle Mansuy
Insee
17 rue Menpenti
F-13387 Marseille Cedex 10
e-mail: michele.mansuy@insee.fr

Introduction

Compared to the rest of the labour force (termed 'seniors') new entrants (also termed 'juniors') are defined by their lack of labour market experience. The transition period thus corresponds to acquiring experience through a first job. For new entrants, this first experience consists in developing skills but also in adapting themselves to company rules. However, the forms of this transition process vary considerably from one country to another (see Ryan, 1999).

Our purpose here is to see how the labour demand determination affects young people's integration into the labour market. Do companies differentiate between new entrants and other manpower categories? To what extent are new entrants disadvantaged?

There have already been a number of studies comparing national systems of training and employment and their consequences in terms of access to different social categories (Muller and Shavit, 1998, is a reference book). In the present paper, emphasis is placed on the **determinants of labour demand**. This involves understanding the outcomes produced by the hiring policies of employers. In particular, the central question is the room that companies are ready to make for new entrants amongst the other labour-force categories. The answer is complex. The idea of a single model of behaviour, where companies act as simple economic agents according to the canonical rules of perfect competition has long been called into question. Theories of segmentation argue that in the context of markets the model of perfect competition is not the point of equilibrium (see Doeringer and Piore 1971, as the reference work). Following the initial work of Maurice, Sellier and Silvestre (1982), Marsden (1986) provided a more institutional and macro-economic version of labour market segmentation including the 'societal effect' analysis. In such a framework, both the production of qualifications and the reproduction of the labour force depend strongly on the overall organisation of industrial relations and on the structure of labour markets. The transition process would therefore reflect the way of regulating young people's entry into the labour market rather than being the sole consequence of individual characteristics.

According to Garonna and Ryan (1989), there are different systems regulating the entry of youth in Europe. Labour-market organisation, symbolised by the trio internal market/occupational market/unorganised or casual market, is a key factor in youth integration. But besides, the state of industrial relations and the linkages between ETS and employers are also crucial.

Garonna and Ryan's presentation possesses three main advantages:

First, collective agreements, custom and practice at the workplace are part of the picture. Thus insiders' and outsiders' relative positions become clearer. Among other authors, Lindbeck and Snower (1988) studied how insiders obtain higher wages and more secure jobs by collective bargaining. But they assume that the insiders/outsiders dichotomy is an important cause of unemployment, and further, of unemployment persistence[1]. Empirical observation does not support this assumption. On the other hand, Cahuc and Zylberberg (1996) have a different interpretation: they consider that insiders may negotiate their wages, but also specific wages for newcomers or layoff premiums. In that case, insiders'/outsiders' relative positions produce discrimination (against outsiders) rather than unemployment. This latter version of the insiders/outsiders dichotomy will be used here.

Second, ETS and productive systems linkages are included, and their outcomes are developed (For instance, in OLM countries, firms are strongly involved in initial vocational training. But on the other hand LM structure is not sufficient to characterise the transition process: this process is smoother in Japan than in any other country with dominant internal labour markets, because firms there hire many school leavers, relying on schools to select the applicants).

Third, it takes into account market regulation changes, such as deregulation and search for flexibility. For more than twenty years, international competition and persistently high unemployment have put into question the former regulatory systems[2]. Youth were a central concern of deregulatory policies, aimed at favouring their inclusion into the workplace. These changes are included in Garonna and Ryan's models.

Garonna and Ryan distinguish three ideal-typical youth regulatory systems: *regulated inclusion, selective exclusion* and *competitive regulation*.

1-Insiders obtain higher wages than outsiders' reservation wage. Newcomers are hired at the same wage level as insiders. The smaller the insiders group, the higher the wage level. According to this, insiders' bargaining produces unemployment. As insiders only participate in collective bargaining, wages remain high even if the unemployment level increases, and outsiders remain unemployed. So insiders' position also produces unemployment persistence.

[2] Regulatory systems are here closer to the French *régulation* school than to the use of the word regulation in the US or UK economic literature. However, Garonna and Ryan do not share all the *régulation* school framework : they put emphasis on differences within economies as well as between them, and on industrial relations more than the organisation of work and education (see Garonna and Ryan, 1991, p.77, note 4). In a recent paper, Boyer and Juillard (1998) forecast three major wage labour nexus in Europe for the XXI century. The similarity between the three forms they define and the Garonna and Ryan youth regulatory systems is striking.

Regulated inclusion in the context of dominant occupational markets

Here, the social partners monitor the training system directly. The most notorious example is the German case (Méhaut 1993). The gains linked to a higher level of skills of their workforces, without the threat of poaching, is the main motive of employers' goal and strategy. On the other hand, unions seek ways to reproduce occupational communities while regulating youth activity in the workplace. Collective bargaining includes training codification and a minimum standard of training quality under public administration control. Employers design skilled jobs in order to use standardised skills provided by the ET system efficiently. The occupational qualification needed to obtain skilled positions on occupational markets is acquired through a structured system of alternance, the most traditional form of which is apprenticeship. Following this period of alternance, young workers are entitled to enter the related occupational market. Any target occupation or any kind of firm is open to them within this occupational market. For a given kind of vocational training obtained, it should thus be possible to observe the same diversity of jobs for new entrants as for more experienced workers and a strong homogeneity in their job profiles. Thus, work experience has a limited impact on recruitment decisions. In this kind of regulation, skills are transferable between companies but adults are partly protected from young people's competition, because access to occupations is regulated by the completion of the corresponding qualification. So skilled adults only compete with skilled new entrants applying for the same occupation.

Selective exclusion in the context of dominant internal markets

Internal markets in the primary segment are characterised by skilled jobs, high wage levels and restricted access. They correspond to specific job or company profiles. In the typical form of the internal market, the qualification is obtained within the company and is not transferable. To achieve high profitability in the long run by retaining skilled workers, companies favour internal promotion and give a significant bonus to seniority. Here, the balance between the Taylorist tendency to reduce skill requirements and the interest in the technical benefits of high employee's competence dominates employers' goals and strategy, where the main goal for unions is to secure pay and jobs for settled workers. Wages are fixed according to the present job position and not to the individual qualifications as they are in the *regulated inclusion* model. This form of regulation where appropriate skills are obtained within the company leads to increasing wages with seniority.

Here, insiders protect themselves against outsiders. When unions are strong, even if outsiders' reservation wage is lower than that of insiders, the latter may bargain on hiring and firing costs, as well on outsiders' wages, in order to preserve their rewards[3]. Conversely, new entrants are likely to be recruited at the lowest skill levels. Presumed less productive than their seniors because of their inexperience, new entrants are thus placed at the end of the queue for hiring.

On the other hand, the companies are themselves more concentrated in one segment of the labour market on the basis of their size and their activity. Thus, large companies are often more attractive because they can more easily develop an internal segment fed by in-house promotion than small-scale companies offering few prospects of promotion. Furthermore, economic activities are sorted from the most attractive to the least attractive according to the level of compensation they offer. However, the development of national productive apparatus -the relocation of certain manufacturing activities, the growth of the services sector, the increasing use of the new information and communication technologies- is leading to a shrinking of internal markets. In that context, it is even more difficult for new entrants to enter the internal segments.

To sum up, in such an organisation of the labour market, companies accepting new entrants differ from companies employing their seniors. Internal markets are often closed to juniors. More often integrated into the segments of the casual labour market, young people are more likely to hold unstable jobs with a high turnover rate. Nevertheless, internal labour markets do not systematically produce selective exclusion: a strong position of insiders, protecting themselves from outsiders' competition, is also a necessary condition. It is not the case in Japan, as stressed by Ryan, 1999.[4]

Competitive regulation in the context of dominant competitive markets

In this kind of regulation, under pressure from the economic environment (strong competition, an uncertain production climate) or due to an imbalance between supply and demand on labour markets, firms aim at making the labour factor profitable in the short run. This can only occur in the context of high unemployment rates and of weak union bargaining power. Companies seek maximum productivity from the labour factor and attempt to minimise associated costs (whether direct or indirect). Insiders have a limited bargain power and cannot protect themselves from outsiders' competition. Employers are strong enough to put pressure on wages and to weaken labour market control (e.g. by suppressing restrictive rules for hires and layoffs). From this perspective, the firm acts as a consumer of skills and gives up any role in their production. The firms then seek skills on the labour market at the lowest cost by effecting trade-offs between accumulated work experience and level of training attained. In the presence of a regulation of the minimum wage level, this leads to a process of excluding the least qualified new entrants, at the same time that competition emerges between graduated new entrants and lower qualified but experienced workers. This type of regulation, with high responsiveness of pay levels to economic conditions, is not necessary restricted to the lowest levels of skills, but may apply also to high levels of transferable skills. In the most skilled jobs, such as professionals, younger people at a lower labour cost may even replace the most experienced and highly paid employees.

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[3] e.g. by imposing minimum wages.

[4] In Japan, where ILMs prevail, the linkage between schools and companies is strong, and Japanese firms readily recruit school-leavers.

Some national economies show a prevalence of one of the three forms above. It is the case in Germany, with the *regulated inclusion* model. Other countries are more mixed, combining two or three types. In particular, the third model is only a tendency and has never applied on a national scale in recent years[5]. Therefore, it is a convenient way to depict the recent evolution of former regulatory systems. In the following, we will consider the three most realistic national combinations:

1 - Dominant *regulated inclusion* (RI), as described above.

2 – Dominant *selective exclusion* (SE) , as described above.

3 – *selective exclusion* mixed with *competitive* regulation (SE+CR)

This third model is an evolution from the *selective exclusion* model. It takes place in the framework of dominant internal markets, when deregulation and flexibility policies are introduced under economic pressure. Apart from wage flexibility, two factors of evolution from the former model may be noticed.

First, the sharply increasing level of education of ETS leavers leads to a disruption of earlier rules for acquiring vocational training within internal markets, which has now basically reverted to the initiative of educational institutions, public or private.

Secondly, public intervention in the labour market may lead to introduce a greater flexibility of wages and labour contracts. Firms may use public integration schemes to lower their direct or indirect labour costs. As a consequence, new entrants will be less disadvantaged in their access to jobs.

Using the three previous combinations, we attempt to bring out some specific features of new entrants' work situation on the labour market in terms of access to jobs, type of jobs they hold (identified by the kind of hiring company, the occupation, the labour contract).

Empirical evidence of regulated entry patterns for new entrants

Pointing out distinctive characteristics of new entrants on labour markets will allow us to identify empirically regulated entry patterns. First, we translate the three combinations of Garonna and Ryan ideal types into assumptions about contrasting positions on labour markets for new entrants and experienced workers. We then briefly present the data available for our study and the empirical indicators corresponding to our assumptions. Finally, we discuss the clusters produced by empirical results.

Assumptions on entry patterns based on regulatory systems of youth entry and their expected influence on the school to work transition

Here are analysed the different regulatory systems previously presented and how they should influence the school to work transition and contribute to shape pathways on labour markets. The purpose now is to identify the predictable specific features of school to work transition induced by each of the regulatory systems and to highlight the way these features combine together.

Initial Education and Training System

The importance and the role of initial education and training vary strongly from one regulatory system to another. This can be linked to the constituent pattern of skills that are recognised and used by firms. The level of recognition of diplomas and titles delivered by the

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[5] Garonna and Ryan mention an article of Gollan (1937) describing such a model as prevailing in the UK after the economic crisis of 1929.

ETS varies on the labour market and can be ranked from a standardised access rule function to a more elusive signal value (Verdier and Möbus 1999).

Vocational qualification standards, elaborated and shared by all the economic agents (firms, unions, State) are a component of the *regulated inclusion* system. These standards constitute access rules to the different occupational markets. In such a system, the definition of individual qualification is close to the content of skills required by companies. So, vocational education and training is widespread. At the same time, youth qualifications also include, as well as formal and practical knowledge, preparation for the working world and life within firms. That preparation can be formally linked with vocational training (as in apprenticeship) or not. Anyway, it leads to a high percentage of young people combining education and employment.

In contrast, a *selective exclusion* system uses qualifications more as an information signal on individual abilities than as an actual description of usable skills. This signal stands for a level of education rather than a specific training content. As a consequence, vocational education and training is less valued by firms and students than in a RI model. Access to skilled positions being regulated by firm-specific experience and training, young people with early working experience are not in a stronger position. Weak valuation of a first job experience, limited job opportunities in low skilled positions and prevalence of education attainment, all sharply reduce incentives to get a job during the course of studies.

In the case of *SE+CR*, firms tend to reduce labour costs and favour short-term profitability (Ashton 1994). Therefore, they tend to limit their participation to the production of skills, upgrading their interest in both general and vocational education. In such a system, young trainees of the IETS with working experience will have an advantage in competing with both more experienced workers and inexperienced trainees. This would lead to the development of double statuses among young trainees.

Thus, one can expect to observe: numerous connections between initial training and employment in *regulated inclusion*, few connections in *selective exclusion* systems, and intermediate to high level of double statuses in *SE+CR* cases.

Access to jobs and job mobility

Whatever the regulatory system, new entrants are outsiders on the labour markets, at the end of their participation in the ETS. This is obviously the case in countries where participation in training courses is clearly separated from participation in labour markets (as in Italy). But this is also true in the countries where the two situations overlap, either in apprenticeship (as in German dual system) or mainly outside this frame (as in the Netherlands). Even in the latter countries, leavers from school or apprenticeship experience a transition to a standard worker status. In a context of jobs rationing, one would expect that the transition process would result in unemployment – at least transitory - among new entrants. Therefore, new entrants are more exposed to unemployment risk than experienced workers. But the gap between the two groups is linked with the corresponding regulatory system of youth entry. In a *regulated inclusion* frame, the unemployment gap should be quickly reduced, as skilled new entrants fulfil the entry criteria for occupational labour markets. As a result, they are weakly differentiated from more experienced workers by employers. The matching process is thus reduced, and juniors are not affected by prolonged unemployment spells. Skills being transferable, job mobility is rather high, among experienced workers as well as among new entrants.

On the other hand, in a *selective exclusion* entry process, employers hire experienced workers first among job applicants. In a context of high unemployment, this can create persistent difficulty in job access for juniors, and result in a specific pool of unemployed juniors engaged in long-term job search. Moreover, job access difficulties tend to reduce incentives for job mobility among settled workers, either juniors or seniors, whatever the quality of the job held.

In a *SE+CR* model, employers intend to develop flexibility in manpower management (Garonna and Ryan 1991). From that perspective, employers promote a regular group of precarious workers in order to manage numerical flexibility (Marsden 1992). That group also acts as a lobbying instrument that affects job security among settled manpower and reduces their bargaining power (Marsden 1991, Ryan 199[illegible]). New entrants take an important place in such a pool of workers. Competition among new entrants is open, and firms choose among them according to their level of education and their expected total labour cost. Having lower pay demands and being less reluctant to enter precarious work relationships, new entrants can easily compete with more experienced outsiders too. As a consequence, job turnover is high, and recurrent short-lasting unemployment spells are common, both for new entrants and experienced outsiders. However, insiders remaining numerous among experienced workers, we can find in this model a higher level of job mobility among new entrants. On the other hand, the gap in unemployment rates between new entrants and experienced workers is expected to be much narrower than in the SE case.

Job dispersion of new entrants by industry

Substantial and persistent differences in earnings and skill structure are observed between industries. Are the relative variations in the youth share by industry related to the different patterns of youth entry regulation on the labour market? Indeed, as a general feature, one can expect that high wage firms and activities select already experienced workers as a more productive group than new entrants, operating as in Thurow's (1975) job competition model on the labour market. However, this general feature should be affected by the dominant youth regulatory system.

In a *regulated inclusion* system, the variation of new entrants' share among economic activities is limited. Firstly, the qualification process within the workplace already provides work experience, potentially linked with targeted skilled positions. Secondly, the qualification-based criterion overturns the experience-based criterion to favour skilled job entry for juniors.

At the opposite, *selective exclusion* favours youth concentration in low skilled jobs and firms that belong to the secondary segment (Marsden and Ryan, 1990). Being outsiders, new entrants are disadvantaged. Many of them can only access low skill job positions or less attractive firms. Internal market job positions are mainly occupied by insiders.

In a *SE+CR* system, insiders' bargaining power is reduced and firms seek to 'open' their recruitment to varied groups of workers. As juniors have a higher level of education, this might counterbalance their lack of experience. This would more likely happen if reduced total labour costs are involved. It is the case when on-the-job training costs are low. It is also true when hiring a junior is associated with a downgrading in the returns to completed training. New entrants' employment space is consequently more open than in a SE model.

Returns to qualifications and experience

The outcomes that new entrants can expect to achieve in the labour market vary according to their ability to attain a good job. Education and training received is a major component of these abilities. As proposed by Becker (1993), investment in human capital is expected to produce subsequent returns on the labour market (wage attained, career prospects, prestige of jobs).

Other theories see the economic role of the diploma in a very different way. For Arrow (1973), the diploma acts like a filter, revealing the applicant's performance ability, rather than proving accumulation of general knowledge and skills. For young people, education and training are an information investment, rather than a human capital accumulation. In an extreme version, education and training curricula don't matter. Spence (1974) offers another version of screening processes related to hiring. In his market signalling theory, employers use diplomas as a signal of potential productivity. Here, the diploma may or may not improve potential productivity. The cost of education and training is supposed to be dissuasive for less competent persons. On the contrary, the supplementary gain attached to qualifications is supposed to be profitable for competent persons. In that case, employer and job applicant expectations turn out to be right.

All these models assume that wages are fixed according to the (expected) productivity. We assume here that pay structure and career prospects don't depend only on individual rationality but more on the state of industrial relations and the labour organisation.

Indeed, the three regulatory models of youth entry are related to very different patterns of education and training rewards.

In the ideal-type of occupational arrangements linked with *regulated inclusion*, wages mainly reward the qualifications held by workers and not their work experience (Marsden and Germe 1991). The wage progression curve in the course of the career is rather flat, as long as the qualifications held are not upgraded. As a consequence, the skill level of jobs offered to new entrants is adjusted to their qualifications (there is no downgrading) and juniors' pay levels do not differ very much from those of seniors.

On the contrary, *selective exclusion* leads to differing consequences for the structure of education and training rewards. First, in the primary segment, internal arrangements favour an increasing return to seniority within firms, as a way to reward on-the-job training and specific skills acquired through experience. It includes possible internal promotions to skilled positions. The counterpart is a reduced return to training when entering a new firm and a subsequent transitory downgrading. If job competition is intense and insiders in a strong position, even qualified new entrants may enter low skilled jobs in the secondary segment. Hence, occupational downgrading of qualified young workers into lower skilled positions is fairly extensive. Later upgrading is possible, as a reward for seniority. Thus, return to training should be contrasted for new entrants and experienced workers.

In the case of SE+*CR model*, firms tend to limit the reward for experience and the reward for qualifications. It is achievable, as insiders' bargaining power is weaker than in a pure SE model. This leads to a downgrading of higher qualified new entrants into lower skilled positions, at least during the transition period. As a result, for new entrants, returns to education and training are lower than for experienced workers. However, insiders' position being weaker, the gap between the two categories is expected to be narrower than in a SE model.

Table 1 below summarises the assumptions we made and recapitulates the expected effects on labour market outcomes for trainees of the ETS and juniors.

Table 1: Transition characteristics by youth regulatory system

Transition characteristics	Regulated Inclusion(RI)	Selective Exclusion(SE)	SE + CR[6]
Education			
Learning and working double statuses	High percentage of learning and working double statuses.	Low percentage of learning and working double statuses	Medium to high percentage of learning and working double statuses.
Vocational education	Extensive and codified vocational education	Very limited codified vocational education	Codified vocational education
Job access	Juniors and seniors similar risks of unemployment	Juniors have a higher risk of unemployment	Juniors and seniors unemployment risks are closer than in SE system.
Job mobility			
Job mobility for seniors	Medium	limited	Medium to high
Job mobility gap for juniors	Medium	limited by incentives to keep jobs	High
Job discrimination	No discrimination towards juniors by industry.	Strong discrimination on primary segment	Weaker discrimination than in a pure 'SE'
Downgrading risk	Limited specific risk For juniors	High risk for juniors	Medium to High risk for juniors

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[6] CR means Competitive Regulation

Available data and empirical indicators

The empirical application in the present paper is based on data extracted from the annual European Labour Force Survey between 1993 and 1997[7]. The annual survey is the compilation of a subset of variables from national Labour Force Surveys in every member States (EUROSTAT 1996). The variables are regularly revised and the last revision occurred in 1998. The surveys are generally conducted on large samples, the sampling rate varying across countries. Although the sample is never fully renewed from one year to another, panel data are not available at the European level. Information collected is almost entirely cross-sectional, and the purpose of the surveys is to give reliable and comparable information on job structure and unemployment across European Union. To do this, the survey promotes international definitions of activity, namely definitions elaborated by the International Labour Office.

To implement the two groups of young people facing the school to work transition, we used:

- Current participation in an initial educational and training course,
- Current position on the labour market,
- A proxy of the age of leaving IETS[8] constructed on the basis of three sets of data: highest levels of education and training attained, the current age of young (both data present in the survey) and the typical graduation ages according to the educational level attained (OCDE 1998).

Table 2 summarises the different indicators, related to the assumptions we previously made. Seven indicators cover the extension of working experiences among trainees, the place of vocational training, unemployment features, job mobility, the possible concentration into specific sectors and the occupational downgrading associated with youth employment.

To sum up, each regulatory system will be characterised as follows:

In a *RI system*, the two indicators related to education and training will have a high value. No difference, or a very slightly one, is expected between juniors' and seniors' unemployment rates. As skills are transferable, but unions' bargaining limits the number of precarious jobs, the general job mobility rate is likely to be intermediate. The key to skilled jobs being qualification and not experience nor seniority, juniors are not expected to be much more mobile then seniors.

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[7] The data has kindly been provided by EUROSTAT which is the Statistical Office of the European Union. Of course, EUROSTAT is neither responsible for the use of the data, the interpretations drawn nor the views expressed by the authors.

[8] not available in the data.

Table 2: Empirical indicators used - summary of their content

Learning and working double statuses	**Share of working vocational or post-secondary trainees** (people having a job among those attending post-secondary education or vocational training)
Vocational education	**Share of vocational qualified among employed juniors**[9]
Job access	**Ratio of unemployment rates (UNJ/UNS)**
Job mobility of juniors	**Transition rate for juniors from a job held the previous year to another employment status** (unemployed, new job)
Job mobility of seniors	**the same for seniors** (same definition as above)
Job discrimination	**Importance of variation of juniors' share among total labour force by industry** (the standard deviation is divided by weighted mean, economic activity is divided in 12 industries)
Relative downgrading risk : ISEI scores related to the highest level of education and training attained	**ISEI scores ratios between juniors and seniors by level of education and training attained :** (as the weighted mean of ratios calculated on average ISEI scores in two different groups (one of juniors and seniors with intermediate level of education and training (ISCED 3) and one of juniors and seniors who have achieved higher education (ISCED 5 to 7))

For similar reasons, juniors are expected to be present in all industries, without discrimination (indicator 6). Juniors are supposed to have occupations matching their qualification level, so their ISEI score ratio, relatively to seniors is expected to be near 1.

In a *selective exclusion* model, the two indicators related to education and training are expected to have low values. Unemployment risk is likely to be higher for juniors. General job mobility is expected to be low (indicators 4 and 5). Discrimination towards juniors is high. The ISEI score ratio for juniors is likely to be lower than for seniors with the same qualifications (low value of indicator 7).

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[9] Data on unemployed or out of the labour force were not available.

In a *SE+CR* model, education characteristics are different from a SE model: codified vocational education is more extended and double statuses are fairly frequent. Juniors still have a higher unemployment risk, but the difference with seniors is narrower than in SE. Job mobility rate is high, although seniors' mobility remains more limited. The risk of downgrading for juniors remains present.

Figure 1 (in the annex) shows the cluster dendrogram (tree resulting from the cluster). Four clusters are clearly identifiable and seem to be a relevant grouping choice.

(1) First cluster: Germany, Denmark, the Netherlands and Austria.

(2) Second cluster: Spain.

(3) Third cluster: Italy and Greece.

(4) Fourth cluster: Belgium, Ireland, France, Finland, Luxembourg, Portugal, Sweden and United Kingdom.

Figures 2 to 8 summarise, for each cluster, the indicators' values for every individual used in the analysis, that is every country-year. The plotted boxes represent the range of median observed values (between the first and the third quartile) while the thin stick represents the whole range of observed values within the cluster.

Figure 2 : Box Plot (Q1, Q3) of the share of trainees who have a job among people participating in a vocational & post-secondary course in an institution belonging to the education and training system, by cluster - (min and max indicated)

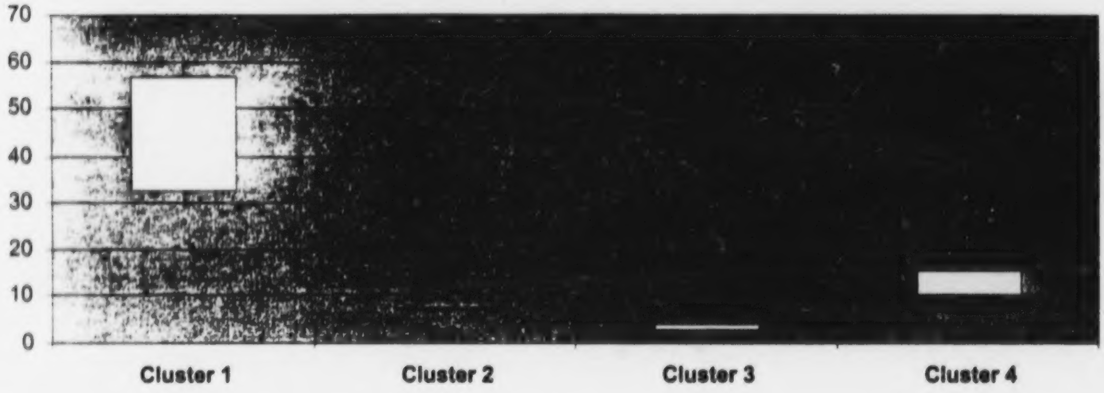

Figure 3 : Box Plot (Q1, Q3) of the share of employed juniors who have a vocational diploma (ISCED 3 level) as highest diploma, by cluster - (min and max indicated)

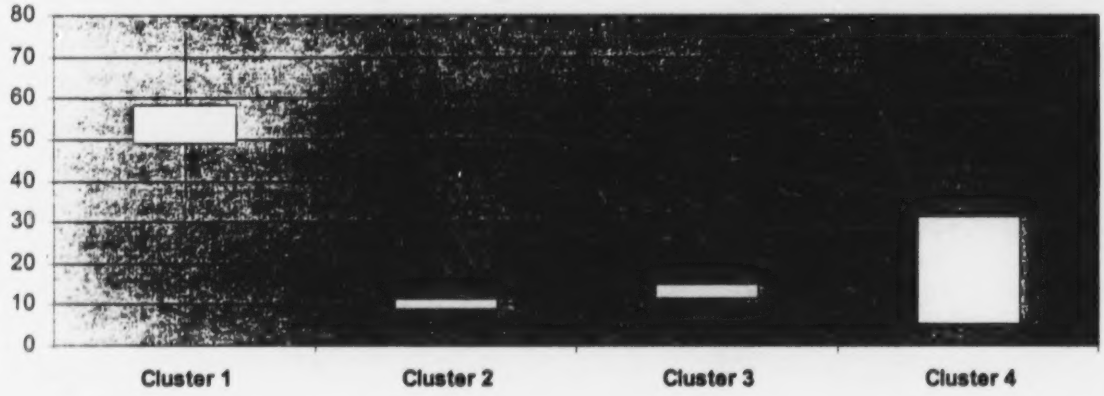

Figure 4 : Box Plot (Q1, Q3) of the ratio of unemployment rate between juniors and seniors, by cluster - (min and max indicated)

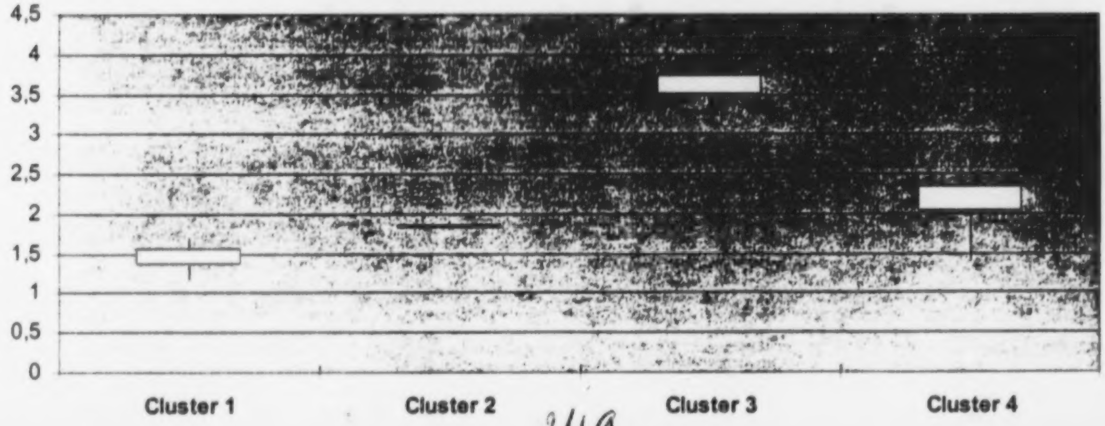

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Figure 5: Box Plot (Q1, Q3) of the level of juniors' mobility out of jobs, by cluster - (min and max indicated)

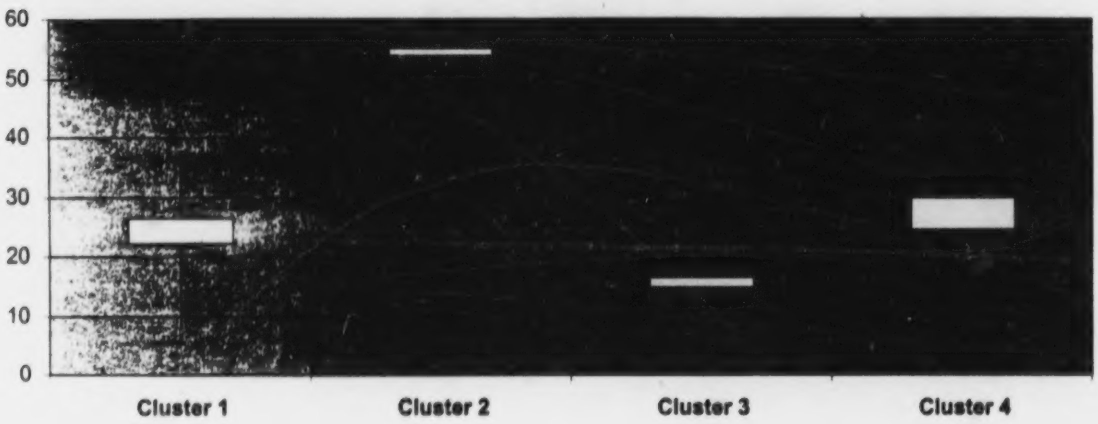


Figure 6: Box Plot (Q1, Q3) of the level of seniors' mobility out of jobs, by cluster - (min and max indicated)

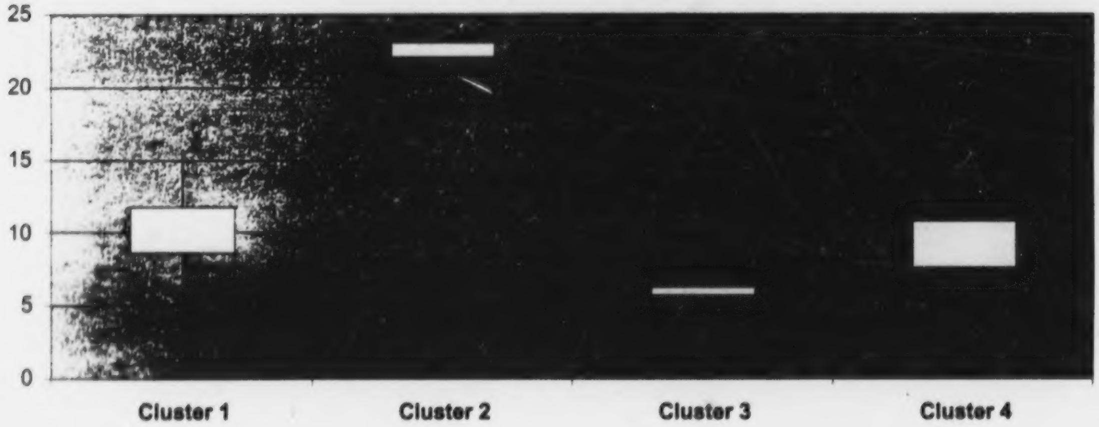


Figure 7 : Box Plot (Q1, Q3) of the ISEI scores ratio for intermediate and higher levels of education, by cluster - (min and max indicated)

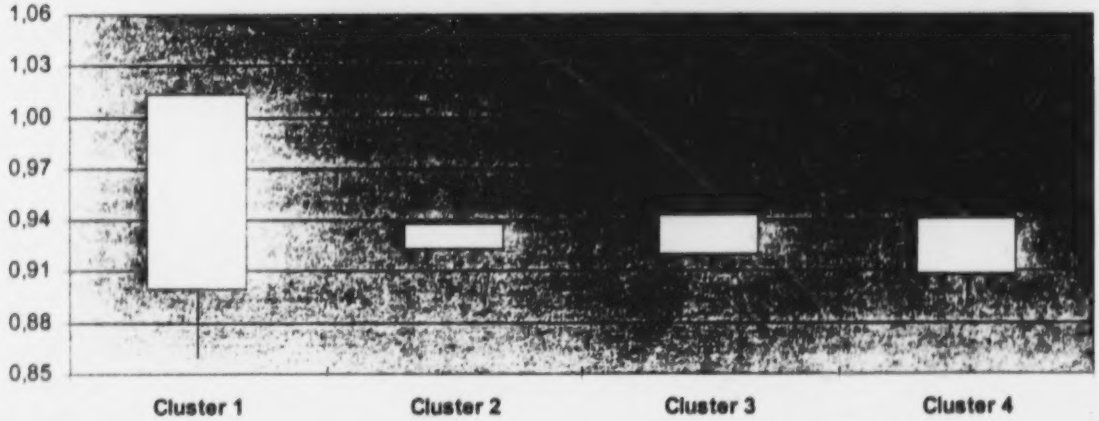
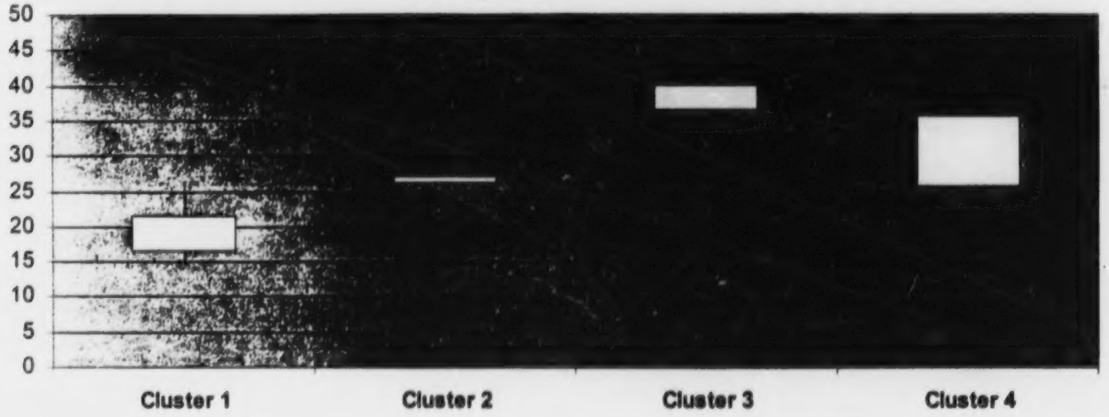


Figure 8 : Box Plot (Q1, Q3) of the dispersion of juniors in sectors (coefficient of variation), by cluster - (min and max indicated)



In first cluster countries, vocational training is widespread and vocational trainees & post-secondary students often have a job while participating in the IETS, as shown in figures 2 and 3. Unemployment risk is comparable for juniors and seniors, the ratio is always smaller than 1.6. New entrants are less often downgraded then in other countries, even though there is a wide range of situations within the cluster. They are not concentrated in specific industries. This cluster is the closest to the *regulated inclusion* type.

Cluster 2 is a single country, Spain. What makes Spain singular are the very high mobility rates, for juniors as well as for seniors. Juniors are not concentrated in specific industries. Unemployment rate for juniors is less than twice as high as for seniors. All this suggests a *SE+CR* model, with high job flexibility, but with vocational training still limited.

Cluster 3 consists of two other Mediterranean countries, Italy and Greece. Here, education and training rarely overlap with work experience (figure 2). Job mobility is limited. Juniors' unemployment rate is more than three times higher than that of seniors. Juniors' jobs are located in specific industries (as shown in figure 8). All this suggests that the cluster is the closest to the *selective exclusion* model.

Cluster 4 is more heterogeneous. The unemployment probability of juniors, compared to seniors, is higher than in clusters 1 and 2. But the unemployment ratio is far behind those of cluster 3 countries. Job mobility is intermediate, and juniors are much more mobile than seniors. In most of the countries of this cluster, the downgrading risk for juniors is high (figure 7). Dual statuses, initial vocational training and mobility across industries for juniors show more heterogeneity within the cluster. On the whole, this cluster shows different combinations from the *SE+CR* type. The main difference from cluster 2 (Spain) is less developed job mobility.

Heterogeneity within clusters

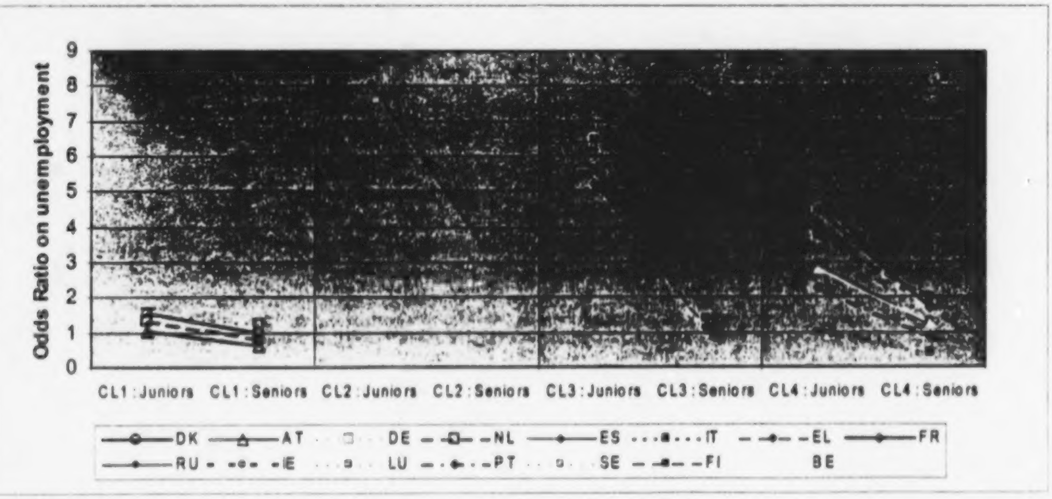
Actual systems are more complex than ideal-types of regulatory systems. Cluster 2 and four do not closely fit one theoretical type, but appear to be to different degrees intermediate between them. And within each cluster, we can find various dissimilarities. Within cluster 1, the proportion of 'initial trainees' is uneven. Furthermore, downgrading of new entrants, unlike in the *regulated inclusion* model is observed for certain countries. The share of 'dual statuses' among trainees, the weight of initial vocational training or the dispersion index of juniors across industries are far from equal within cluster four.

In order to illustrate the common patterns within clusters, as well to measure the heterogeneity they contain, we tested several models.

Model A: unemployment probability

Model A is a logistic regression estimating the probability of being unemployed according to time, gender, class of experience (junior/senior), cluster, experience by cluster, country within cluster(A2,A3), experience within country within cluster(A3). Figure 9 gives a graphic representation of the results (odds ratios by country within clusters, for juniors and seniors, model in annex 2).

Figure 9 : Representation of odds ratio to be unemployed – model 3 (ref. : Danish seniors=1)



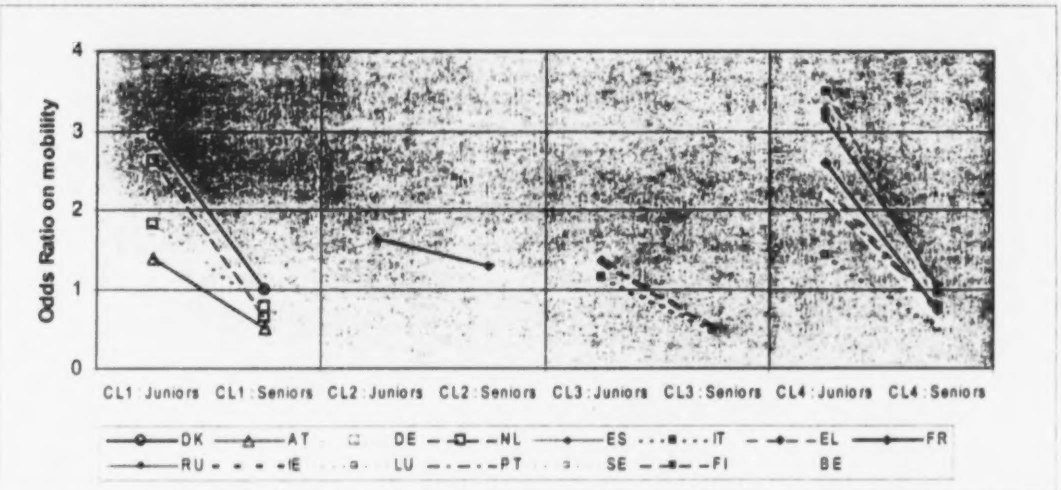
Cluster coefficients for juniors show that, on average, juniors are more often unemployed. Spanish (cluster 2) juniors have a higher risk of being unemployed (with an odds ratio near eight, compared to Danish seniors), but, compared to their seniors, they are not the most disadvantaged. Unemployment risk for cluster 3 juniors is not so high, but it is higher, if evaluated relative to their seniors. Cluster 4 juniors have higher unemployment probabilities than their seniors, but the difference is far less marked than in clusters 2 and 3. The less disadvantaged are by and large cluster 1 juniors.

National unemployment levels are very different, and all country coefficients are significant. However, the relative positions of juniors and seniors are fairly homogeneous within clusters: German juniors are a bit less exposed to unemployment than the average of the cluster (with a 95% confidence interval). In contrast to their seniors, Belgian, Irish and Finnish juniors have a lower additional risk of being unemployed than the other juniors of cluster 4.

Model B: chances of job mobility

Model B is a logistic regression estimating the probability of leaving the job held one year previously according to time, gender, class of experience (junior/senior), cluster, experience by cluster, country within cluster(A2,A3), experience within country within cluster(A3). Figure 10 gives a graphic representation of the results (odds ratios by country within clusters, for juniors and seniors, model in annex 2).

Figure 10: Representation of odds ratio of being mobile – model 3 (ref. : Danish seniors=1)



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Job mobility level is low for cluster 3 seniors, medium for cluster 1 and 4, and high for cluster 2. Juniors are significantly more mobile than their seniors.

Cluster 3 juniors are closer to their seniors' mobility chances than juniors from other clusters.

Within cluster 1, mobility rates have very different levels, the Danish being more mobile. Within cluster 4, mobility is more frequent in Finland and the UK, less frequent in Belgium and Luxembourg.

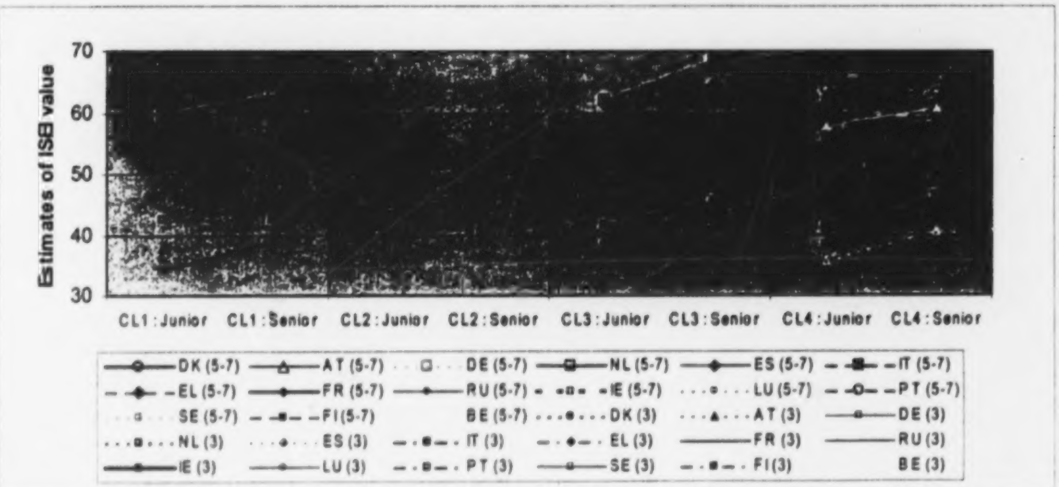
Relative to their seniors, German juniors have a lower additional risk than in other countries of cluster 1. It is the opposite for the Dutch juniors.

The country-specific risk of mobility for juniors is limited within cluster 4: in proportion to their seniors, only British and Portuguese juniors have a specific (lower) risk.

Model C: Occupational status by ISCED level

Model C is a set of two linear regressions estimating the level of occupational status (measured by the ISEI score) according to time, gender, class of experience (junior/senior), cluster, experience by cluster, country within cluster(A2,A3), experience within country within cluster(A3). The first regression is devoted to people with ISCED 3 and the second to people with ISCED 5 to 7. Figure 11 gives a graphic representation of the results (odds ratios by country within clusters, for juniors and seniors, model in annex 2).

Figure 11: Representation of estimates of ISEI values – models 3.1 & 3.2



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A risk of downgrading, measured by ISEI scores, is present for higher education graduates in cluster 3 and 4 countries. It is very limited in cluster 2. Third level juniors are less disadvantaged in cluster 4 countries than in cluster 3. For higher education graduates, the ISEI average score for cluster 1 juniors is higher than for seniors (close to 3 points). But, within clusters, results are fairly heterogeneous: German juniors are more advantaged than Danish ones, Austrian and above all, Dutch significantly less. The downgrading risk for Dutch juniors is even higher than in cluster 4 countries. Downgrading risk for Greek juniors is fairly below the Italian one. Within cluster 4, the risk of having a lower ISEI score is significantly higher in Ireland, the UK and Belgium, lower in Portugal.

At level ISCED 3, a downgrading risk for juniors is present in all countries except the Netherlands, although to a smaller extent than for ISCED 5-7. There is no significant difference within cluster 4. Within cluster 1, Dutch juniors have a significantly better position, and German have a lower relative score than Danish or Austrian juniors.

Model D: share of juniors' employment across industries

Model D is a linear regression estimating the absolute difference in the mean of juniors' share in economic activities according to time, cluster, country within cluster (A2, A3) and economic activities (A3).

Cluster 1 and 2 show the smallest variation of juniors' employment across industries. Cluster 4 countries have an intermediate position, with juniors more concentrated in certain industries than in the former countries, but less so than in cluster 3. In cluster 3 countries, juniors are more often employed in specific sectors.

Country variation is found only within cluster 4: Swedish, Irish, and above all, Portuguese juniors are more often employed in a specific subset of industries.

Conclusion

Juniors' situation on the labour market varies strongly across countries. This paper shows that, compared to seniors, their relative position on the LM is also distinct. Empirical evidence brings out four contrasting sets of countries. According to the assumptions we made (table 1), cluster 1 is the closest to *regulated integration*, cluster 3 to *selective exclusion*, cluster 2 and 4 are several combinations of *SE+CR* type. Cluster 2 (Spain) is characterised by the highest levels of unemployment and job mobility.

Nevertheless, each national system is much more complex than the polar cases. The supplementary risk of being unemployed attached to the junior condition is fairly homogeneous within the four sets. But the national systems are far from equivalent : downgrading risks for juniors are high in the Netherlands, unlike in the typical *RI* model. The *SE+CR* model is supposed to provide more opportunities for new entrants, but in Ireland, Sweden & Portugal, juniors are still concentrated in certain industries, like in a pure *SE* model. It is supposed to favour vocational education, but it is less the case in Spain, Belgium or Portugal than in other countries of clusters 2 & 4. Mobility chances also show a certain heterogeneity within clusters.

Some comments can be made about the general framework we used. First, public policy issues are not explicitly taken into account. It is particularly problematic in the countries where the real system is near the *SE* or *SE+CR* models. In the past twenty years, most of these countries have developed education, training and labour market policies which attempt to prevent youth exclusion. Second, the dynamic of national systems is imperfectly captured.

In relation to public policy issues, Gautié and Lefresne (1997) adapted the Garonna and Ryan model in order to define four youth inclusion patterns, incorporating public policies: "insertion négociée" (negotiated inclusion) – same as *regulated inclusion*-, "insertion réglementée" (state regulated inclusion) -such as quota policy for disabled workers, or other disadvantaged minorities-, "insertion incitée" (public incentives for youth inclusion) -in a former *selective exclusion* model, policy makers give incentives to firms for hiring new entrants by creating specific low-wage contracts, or by giving extra training to the young unemployed- and "insertion concurrentielle" (competitive inclusion) -in a former *selective exclusion*, or *regulated inclusion* model, public policies try to promote competition, by suppressing controls on hiring and redundancies, or by making job contracts regulation more flexible. In the latter case, an evolution towards the competitive regulation model is an explicit goal for public policy.

This adapted model could be taken into account, with quantitative information on public policy. More generally, other actors' strategies could be integrated with more available information.

In relation to the dynamic of national systems, many studies have shown that each *actual* system is submitted to endogenous or exogenous shocks. Increasing international competition, biased technical progress, new regulations of competition in post-fordist economies affect the demand for competencies, as well as the nature of the relationship between employers and employees (Petit 1998). These shocks have consequences for working life, career progression rules, etc. For instance, it is well known that in France career prospects for workers are not the same today as they were for the former generation, because of the competition between qualified new entrants and experienced workers without qualifications (Goux 1991). Buechtemann and Verdier (1998) quote the same phenomenon in Germany: promotion from skilled worker to Meister or Techniker tends to be less frequent.

With longer time series and more microdata, testing how the national systems are affected by these shocks will be possible.

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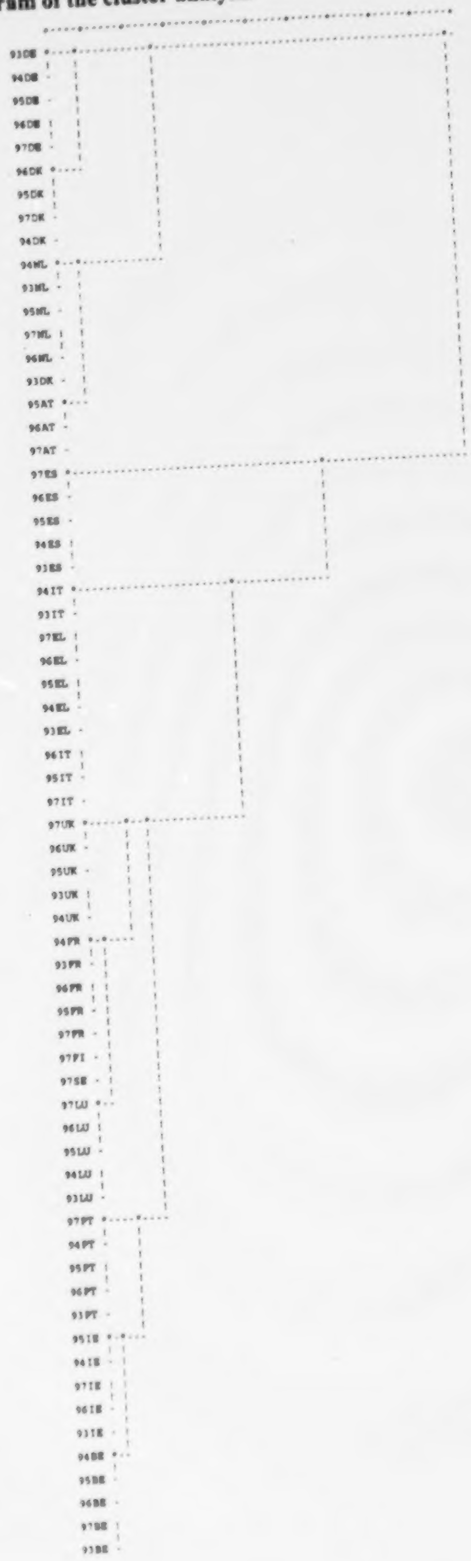
Annex 1 : Figure 1

Dendrogram of the cluster analysis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Annex 2 : models

Results of logistic regression analysis of unemployment

Model	1	2	3
Constant	-2,64 **	-2,71 **	-2,76 **
Time trend (1993=0)	0,00	0,00	0,00
Gender			
Males	Ref.	Ref.	Ref.
Females	0,29 **	0,29 **	0,29 **
LM experience			
Juniors	0,28 **	0,28 **	0,45 **
Seniors	Ref.	Ref.	Ref.
Cluster solution			
Cluster 1	Ref.	Ref.	Ref.
Cluster 2	1,14 **	1,22 **	1,26 **
Cluster 3	0,19 **	0,30 **	0,34 **
Cluster 4	0,21 **	0,50 **	0,54 **
*Cluster solution * experience*			
Cluster 2 * Juniors	0,55 **	0,54 **	0,38 **
Cluster 3 * Juniors	1,25 **	1,25 **	1,08 **
Cluster 4 * Juniors	0,63 **	0,64 **	0,52 **
*Cluster solution * country*			
Cluster 1 * Denmark		Ref.	Ref.
Cluster 1 * Austria		-0,45 **	-0,44 **
Cluster 1 * Germany		0,15 **	0,20 **
Cluster 1 * Netherlands		-0,17 **	-0,16 **
Cluster 3 * Italy		Ref.	Ref.
Cluster 3 * Greece		-0,23 **	-0,23 **
Cluster 2 * Spain		Ref.	Ref.
Cluster 4 * Luxembourg		-1,46 **	-1,43 **
Cluster 4 * Portugal		-0,66 **	-0,66 **
Cluster 4 * France		Ref.	Ref.
Cluster 4 * United Kingdom		-0,39 **	-0,38 **
Cluster 4 * Ireland		0,01	0,16 **
Cluster 4 * Sweden		-0,25 **	-0,28 **
Cluster 4 * Finland		0,07	0,13 **
Cluster 4 * Belgium		-0,34 **	-0,30 **
*Cluster solution * country * LM experience*			
Cluster 1 * Denmark * Juniors			Ref.
Cluster 1 * Austria * Juniors			0,01
Cluster 1 * Germany * Juniors			-0,21 *
Cluster 1 * Netherlands * Juniors			0,01
Cluster 3 * Italy * Juniors			Ref.
Cluster 3 * Greece * Juniors			0,01
Cluster 2 * Spain * Juniors			Ref.
Cluster 4 * Luxembourg * Juniors			-0,12
Cluster 4 * Portugal * Juniors			-0,02
Cluster 4 * France * Juniors			Ref.
Cluster 4 * United Kingdom * Juniors			-0,04
Cluster 4 * Ireland * Juniors			-0,56 **
Cluster 4 * Sweden * Juniors			0,13
Cluster 4 * Finland * Juniors			-0,30 **
Cluster 4 * Belgium * Juniors			-0,18 **
Model Chi²	20769 **	22334 **	22407 **
DF	9	20	31
N	624185	624185	624185

* = $p < 0.05$; ** = $p < 0.01$

Ref. = reference category

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Results of logistic regression analysis of job mobility

Model	1	2	3
Constant	-2,07 **	-1,75 **	-1,79 **
Time trend (1993=0)	-0,01 **	-0,01 **	-0,01 **
Gender			
Males	Ref.	Ref.	Ref.
Females	0,14 **	0,14 **	0,13 **
LM experience			
Juniors	0,96 **	0,92 **	1,08 **
Seniors	Ref.	Ref.	Ref.
Cluster solution			
Cluster 1	Ref.	Ref.	Ref.
Cluster 2	0,91 **	0,58 **	0,62 **
Cluster 3	-0,44 **	-0,78 **	-0,73 **
Cluster 4	0,12 **	-0,33 **	-0,30 **
*Cluster solution * experience*			
Cluster 2 * Juniors	0,36 **	0,41 **	0,25 **
Cluster 3 * Juniors	-0,07	-0,03	-0,21 **
Cluster 4 * Juniors	0,22 **	0,25 **	0,17 *
*Cluster solution * country*			
Cluster 1 * Denmark		Ref.	Ref.
Cluster 1 * Austria		-0,70 **	-0,67 **
Cluster 1 * Germany		-0,30 **	-0,25 **
Cluster 1 * Netherlands		-0,41 **	-0,42 **
Cluster 2 * Spain		Ref.	Ref.
Cluster 3 * Italy		Ref.	Ref.
Cluster 3 * Greece		0,05	0,03
Cluster 4 * France		Ref.	Ref.
Cluster 4 * United Kingdom		0,30 **	0,32 **
Cluster 4 * Ireland		-0,03	0,00
Cluster 4 * Luxembourg		-0,43 **	-0,39 **
Cluster 4 * Portugal		0,02	0,06 *
Cluster 4 * Sweden		0,08	0,04
Cluster 4 * Finland		0,24 **	0,23 **
Cluster 4 * Belgium		-0,24 **	-0,26 **
*Cluster solution * country * LM experience*			
Cluster 1 * Denmark * Juniors			Ref.
Cluster 1 * Austria * Juniors			-0,10
Cluster 1 * Germany * Juniors			-0,23 **
Cluster 1 * Netherlands * Juniors			0,31 **
Cluster 2 * Spain * Juniors			Ref.
Cluster 3 * Italy * Juniors			Ref.
Cluster 3 * Greece * Juniors			0,15
Cluster 4 * France * Juniors			Ref.
Cluster 4 * United Kingdom * Juniors			-0,14 **
Cluster 4 * Ireland * Juniors			-0,16
Cluster 4 * Luxembourg * Juniors			-0,21
Cluster 4 * Portugal * Juniors			-0,26 **
Cluster 4 * Sweden * Juniors			0,18
Cluster 4 * Finland * Juniors			0,06
Cluster 4 * Belgium * Juniors			0,08
Model Chi^2	19121 **	19847,4 **	20338 **
DF	9	20	31
N	524536	524536	524536

* = $p < 0.05$; ** = $p < 0.01$

Ref. = reference category

Results of partial linear regression analysis of ISEI occupational status by ISCED level

Model	1. ISCED = 5 to 7			2. ISCED = 3		
	1.1	1.2	1.3	2.1	2.2	2.3
Constant	57,89 **	57,29 **	57,36 **	39,60 **	38,30 **	38,58 **
Time trend (1993=0)	-0,07 **	-0,09 **	-0,09 **	-0,10 **	-0,07 **	-0,06 **
Gender						
Males	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Females	-3,22 **	-3,27 **	-3,26 **	2,35 **	2,36 **	2,37 **
LM experience						
Juniors	3,16 **	3,26 **	2,91 **	-1,14 **	-1,12 **	-2,48 **
Seniors	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Cluster solution						
Cluster 1	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Cluster 2	-0,78 **	-0,10	-0,18	2,12 **	3,32 **	3,03 **
Cluster 3	9,57 **	11,16 **	11,18 **	5,37 **	7,13 **	6,87 **
Cluster 4	2,69 **	2,36 **	1,89 **	1,89 **	1,77 **	1,50 **
*Cluster solution * experience*						
Cluster 2 * Juniors	-3,91 **	-4,01 **	-3,66 **	-4,58 **	-4,60 **	-3,24 **
Cluster 3 * Juniors	-8,95 **	-8,54 **	-9,37 **	-2,69 **	-2,54 **	-1,41 **
Cluster 4 * Juniors	-6,34 **	-6,32 **	-4,07 **	-2,82 **	-3,09 **	-1,84 **
*Cluster solution * country*						
Cluster 1 * Denmark		Ref.	Ref.		Ref.	Ref.
Cluster 1 * Austria		10,67 **	11,15 **		1,77 **	1,71 **
Cluster 1 * Germany		-0,32	-0,65 *		0,73 **	0,32
Cluster 1 * Netherlands		4,43 **	5,41 **		3,89 **	4,10 **
Cluster 2 * Spain		Ref.	Ref.		Ref.	Ref.
Cluster 3 * Italy		Ref.	Ref.		Ref.	Ref.
Cluster 3 * Greece		-3,62 **	-4,02 **		-3,89 **	-4,10 **
Cluster 4 * France		Ref.	Ref.		Ref.	Ref.
Cluster 4 * United Kingdom		1,56 **	2,27 **		3,15 **	3,12 **
Cluster 4 * Ireland		0,60	1,59 **		2,49 **	2,44 **
Cluster 4 * Luxembourg		1,83 *	2,34 *		3,16 **	2,94 **
Cluster 4 * Portugal		4,15 **	3,95 **		6,32 **	6,38 **
Cluster 4 * Sweden		-1,13 **	-1,08 *		-2,36 **	-2,54 **
Cluster 4 * Finland		1,72 **	1,26 *		-0,68	-0,71
Cluster 4 * Belgium		1,20 **	1,61 **		0,27	0,32 *
*Cluster solution * country * LM experience*						
Cluster 1 * Denmark * Juniors			Ref.			Ref.
Cluster 1 * Austria * Juniors			-3,42 **			-0,17
Cluster 1 * Germany * Juniors			1,72 **			-2,10 **
Cluster 1 * Netherlands * Juniors			-6,00 **			2,25 **
Cluster 2 * Spain * Juniors			Ref.			Ref.
Cluster 3 * Italy * Juniors			Ref.			Ref.
Cluster 3 * Greece * Juniors			3,18 **			1,27 **
Cluster 4 * France * Juniors			Ref.			Ref.
Cluster 4 * United Kingdom * Juniors			-4,21 **			0,25
Cluster 4 * Ireland * Juniors			-4,22 **			0,28
Cluster 4 * Luxembourg * Juniors			-2,60			1,60
Cluster 4 * Portugal * Juniors			1,54 *			-0,51
Cluster 4 * Sweden * Juniors			1,63			1,34
Cluster 4 * Finland * Juniors			2,63			0,25
Cluster 4 * Belgium * Juniors			-2,08 **			-0,45
SS	1141815	1417032	1497547	1185039	1651793	1684776
F value	1017,0 **	573,8	392,4 **	1178,7 **	748,9 **	493,3 **
DF	9	20	31	9	20	31
R^2	0,040	0,05	0,053	0,032	0,044	0,045
N	219434	219434	219434	327798	327798	327798

* = $p < 0.05$; ** = $p < 0.01$

Ref. = reference category

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Results of linear regression analysis of absolute variation to the mean of juniors share in economic activities

Model	1	2	3
Constant	14,99 **	14,20 **	8,33 **
Time trend (1993=0)	-0,07	-0,10	-0,09
Cluster solution			
Cluster 1	Ref.	Ref.	Ref.
Cluster 2	3,67	4,55	3,17
Cluster 3	16,10 **	17,83 **	16,93 **
Cluster 4	9,67 **	6,49 *	5,58 *
*Cluster solution * country*			
Cluster 1 * Denmark		Ref.	Ref.
Cluster 1 * Austria		4,05	2,95
Cluster 1 * Germany		-1,70	-1,67
Cluster 1 * Netherlands		2,48	1,72
Cluster 2 * Spain		Ref.	Ref.
Cluster 3 * Italy		Ref.	Ref.
Cluster 3 * Greece		-1,69	-4,45
Cluster 4 * France		Ref.	Ref.
Cluster 4 * United Kingdom		1,36	1,96
Cluster 4 * Ireland		10,47 **	9,76 **
Cluster 4 * Luxembourg		6,04 *	5,22
Cluster 4 * Portugal		12,49 **	11,95 **
Cluster 4 * Sweden		5,74	7,06 *
Cluster 4 * Finland		0,61	0,93
Cluster 4 * Belgium		-4,84	-4,57
Economic activities			
Industry			Ref.
Agriculture			20,43 **
Construction			-0,42
Wholesale & Retail Trade			5,56 **
Hotels & Restaurants			21,56 **
Transport & communication			13,35 **
Financial intermediaries			7,55 **
Business activities			14,14 **
Public administration			16,90 **
Education			9,63 **
Health			-1,44
Other service activities			-3,05
SS	23960	38681	89220
F value	20,97 **	9,50 **	16,19 **
DF	4	15	26
R^2	0,093	0,149	0,344
N	828	828	828

Dependent variable : $Y_{ij} = |S_{ij} - S_{.j}| / S_{.j}$ where

S_{ij} is the share of junior in the i^{th} economic activity of the j^{th} country

$S_{.j}$ is the average share of junior in all the economic activities of the j^{th} country

* = $p < 0.05$; ** = $p < 0.01$

Ref. = reference category

Annex 3 : Average values of indicators of the cluster analysis

	CVN	CHOR	MOBJ	MOBS	ISE2	FIP0	VTJ
Austria	25,1	157,0	17,9	7,0	94,6	30,5	74,4
Denmark	17,8	147,4	30,9	13,0	97,7	58,7	48,5
Germany	16,3	126,4	22,2	10,6	102,1	32,6	56,1
Netherlands	20,6	153,6	25,3	8,1	88,6	46,7	49,5
Spain	26,3	184,8	54,0	22,6	93,1	7,3	10,2
Italy	40,3	352,0	14,8	5,7	92,5	3,9	10,9
Greece	36,5	377,2	17,5	6,8	94,1	2,8	15,1
France	27,1	226,8	29,5	9,9	91,9	13,0	43,4
U-Kingdom	27,2	228,8	33,1	13,1	91,1	42,8	29,9
Ireland	35,6	143,8	26,3	9,8	90,6	11,7	0,0
Luxembourg	30,3	236,0	18,1	6,3	94,0	9,0	29,3
Portugal	40,1	239,4	25,3	10,7	95,1	14,3	5,0
Sweden	38,6	237,0	27,0	8,4	95,0	20,6	50,3
Finland	25,3	155,0	34,3	7,7	93,7	22,3	41,0
Belgium	22,9	204,2	26,3	12,0	90,9	5,2	7,9

CVNT : Coefficient of Variation of the juniors'share into economic activities (*100)

CHOR : Ratio between juniors' unemployment and seniors' unemployment (*100)

MOBJ : Share of mobile juniors among juniors employed one year before (%)

MOBS : Share of mobile seniors among seniors employed one year before (%)

ISE2 : average ratio of juniors ISEI to seniors ISEI (*100) for ISCED 3 to 7. The ratio has been calculated separately for ISCED 3 and for ISCED 5-7. The average is calculated by weighting the ratios with the respective weights of ISCED 3 and ISCED 5-7 among the population of juniors and seniors.

FIP0 : working trainees among trainees attending an ISCED 3 to 7 course (%)

VTJ : Share of employed juniors who have a vocational diploma as highest level declared.

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Comparative Analysis of Transitions from Education to Work in Europe

European Perspectives on Labour Market Entry: A Matter of Institutional Linkages between Training Systems and Labour Markets?

Markus Gangl

Mannheim Centre for European Social Research (MZES)
University of Mannheim
P.O. Box 10 34 62
D-68131 Mannheim
Germany
E-mail: Markus.Gangl@mzes.uni-mannheim.de

WORKING PAPERS

Abstract

The nature of the linkage of education and training systems to the labour market is often claimed to crucially affect labour market integration in modern economies. More specifically, most current comparative research assumes a more strongly qualification-based allocation in training systems allowing for early occupational specialization as compared to more experience-based allocation mechanisms where such arrangements are absent. Building on this basic idea, the paper develops a set of institutional predictions about consequences for patterns of labour market entry in these systems. This framework is then applied in exploratory analyses for twelve member states of the European Union. From these, three distinct patterns of early labour market experiences empirically emerge: first, a non-experience based pattern for those continental European countries with extensive vocational training systems, second, a strongly experience-based allocation pattern in those Northern European countries lacking such systems, and, finally, a particular and theoretically unexpected pattern among the group of Southern European countries. While the first contrast appears broadly consistent with current institutionalist arguments about the impact of interlinked training systems and labour markets, the explanation for the peculiarity of Southern Europe needs both further investigation and additional conceptual tools.

1. Structured Entries: the Importance of Institutional Contexts

Broadly speaking, the experiences of young people at labour market entry depend on the resources they bring into the market, the evaluation of these within the labour market and their transformation into the attainment of labour market positions. As uncontroversial as this is, social science research has long been focused both on establishing a theoretical understanding of this attainment process and on arriving at empirical estimates of the attainment function. Be it economic research in the tradition of human capital models or be it sociological status attainment research, the main interest generally has been the role of individual resources – namely educational qualifications and work experience – and ascriptive factors like gender, social origin or ethnicity in the attainment process. As such, inequalities between individuals have been highlighted and theoretical understanding of attainment is mainly driven by their determinants – at the expense of broader institutional or structural factors.

With the proliferation of comparative research, differences in attainment processes between countries have been constantly and reliably established. Specifically in the study of labour market entry and transitions from school to work, major recent contributions have concluded that individual resources, namely education, clearly matter for labour market attainment in all industrial societies, yet at the same time, *the way they do so varies between countries* (cf. the review in Kerckhoff 1995; Müller and Shavit 1998; Shavit and Müller, forthcoming; Kerckhoff 1996, forthcoming; Hannan et al. 1997; Brauns et al. 1998; Rosenbaum et al. 1990; Allmendinger 1989; other related studies comprise work by Ashton 1988, 1994, 1997; Ashton et al. 1990; Sengenberger 1987). These findings indeed add to previous research at the national level as the similarities and differences between societies draw attention to the embeddedness of attainment processes within specific institutional contexts, thus fostering and necessitating institutional explanations in comparative research.

Actually, much of current comparative research is based on the argument of a dichotomy of *stratification systems*, each representing a specific type of linkage between the institutional structure of education and training systems and the stratification of labour market careers (cf. Kerckhoff 1995; Müller and Shavit 1998; Hannan et al. 1999): on the one hand, there is one type of system, regularly claimed to operate in Austria or Germany, tied to a horizontally differentiated education and training system providing highly specific, occupationally relevant initial training, exhibiting high employer involvement in training provision and strong occupational entry labour markets. The second type of system is more of the French or U.S. type where initial education is largely school-based and decoupled from the labour market, being in consequence more general in nature and less tailored to the youth's specific future work tasks. Effectively, as will be argued in more detail below, this institutional argument posits the existence of different institutional equilibria in terms of the relative reliance of market matching processes on either educational certification or labour force experience and mobility. Much of institutional theorizing in comparative reseach on labour markets and social stratification is actually centred around this basic notion, whether framed as a difference between *organizational spaces* versus *occupational spaces* in labour markets (cf. Maurice et al. 1986; Müller and Shavit 1998;

Brauns et al. 1998; Jobert et al. 1997), *systems of internal labour markets* versus *systems of occupational labour markets* (cf. especially Marsden 1986, 1990; Marsden and Ryan 1995; Eyraud et al. 1990), or *highly* versus *weakly stratified educational systems* (Allmendinger 1989; Hannan et al. 1999).

Now, as the nature of the stratification system determines the channelling of the flows of individuals into positions (Kerckhoff 1995), the magnitude of such institutional effects on attainment processes is, for two main reasons, best assessed from a cross-national analysis of labour market entry: first, the basic structure of education and training systems is determined at a national level, so that only cross-national analysis will provide sufficient institutional variation to allow these type of effects to be detected. Second, labour market entry provides the analyst with a "pure" flow situation as, per definition, no individual is already allocated to a position. Turning the argument on its substantive head again, all of this institutionalist reasoning implies the expectation of huge cross-national differences in labour market entry patterns, closely tied to the nature of the interlinkage between education and training systems and the labour market.

Much of current research does indeed lend considerable support to the above arguments (cf. Allmendinger 1989; Kerckhoff 1995, 1996, forthcoming; Müller and Shavit 1998; Shavit and Müller, forthcoming). Still, cross-national comparisons have so far more often than not been restricted to analyses of a limited number (mostly two) out of a limited set of (mostly Northern European or Northern American) countries (cf. Müller and Shavit, 1998, for a notable exception). Drawing on a new database for the countries of the European Union, the current paper is able to provide an analysis addressing the variety of stratification systems across a considerably expanded set of countries and institutional arrangements, notably including Southern Europe among the country cases. Building on data for twelve member states of the European Union, the paper consequently aims to put the above institutionalist hypothesis to an empirical test: do we empirically observe a dichotomy of stratification systems shaping labour market entry in European countries? And furthermore, do country contrasts conform to the expectation of a dichotomy in terms of types of linkages between educational systems and labour markets?

In order to pursue these questions, the paper proceeds to develop an analytical framework for identifying different stratification systems from their empirical consequences rather than from institutional analysis (cf. Marsden 1990; Eyraud et al. 1990 for related earlier attempts). The main institutional argument is outlined in more detail in the following section. From that, a set of empirically testable hypotheses on structural differences between the ideal type stratification systems in terms of patterns of labour market entry is delineated. Section 3 then proceeds to discuss the data sources and research design of the study, as well as the operationalization of specific hypotheses gained in Section 2. After that, Section 4 presents basic descriptive results on the structure of labour market entry in the European economies under study, while Section 5 discusses the main empirical analyses. The findings are summarized and assessed in a concluding section.

2. Institutional Arrangements and Entry Labour Markets

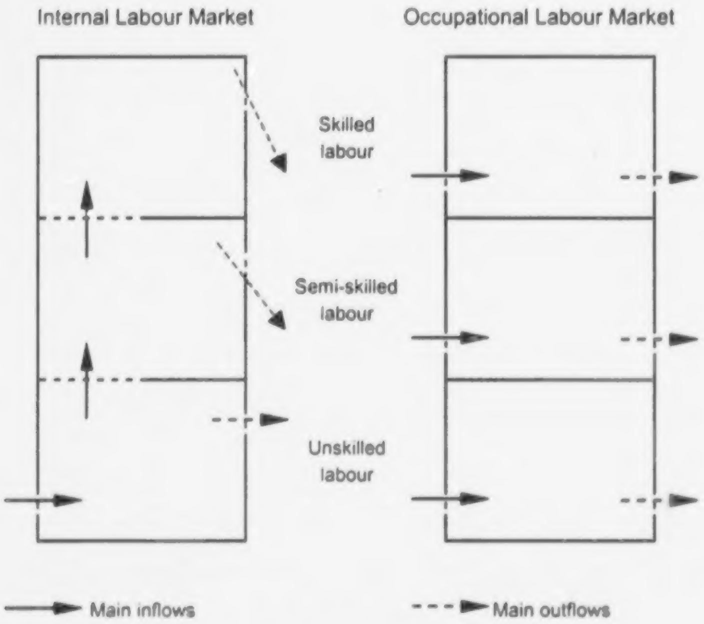
From what has been said so far, the core institutionalist claim is that cross-national similarities and differences in the transition into working life do reflect *systemic* differences in the sense of stemming from the operation of distinct types of national stratification systems. As coined by Kerckhoff (1995: 342), the notion of *stratification systems* is intended to address distinct types of channelling the flow of individuals to positions. Of course, a particular stratification system is always the consequence of specific institutional arrangements, i.e. particular institutional interlocks of specific types of education and training systems with specific sets of labour market regulation and labour market policies, or, for that matter, a specific style family formation (Hannan et al. 1999; cf. the general argument in Soskice, forthcoming; Hall and Soskice 1998). With respect to stratification systems in industrial societies, the main institutional hypothesis is that *the structure of the education and training system is a key factor in determining the nature of the stratification system, resulting in two distinct institutional equilibria of particular types of training systems and thus in specific patterns of stratification.* More specifically, it is the relative reliance of market matching processes on formal education versus experience and mobility which is at stake here. In the context of vocationally specific and occupationally relevant initial training, the education and training system performs an effective presorting of individuals and allows for a stratification system based on certified skills. In the absence of such training systems, matching processes have to rely relatively more on experience and mobility, thus yielding a different type of stratification system.

What then should be the mechanisms bringing about such differences in stratification? As the relationship between skills, employment relationships and labour market attainment has always been a crucial concern of labour market segmentation theory (cf. Doeringer and Piore, 1971; Sørensen and Kalleberg, 1981), it may come as no surprise that the most lucid description of the operation of such stratification systems originates from that research tradition. In a segmentation perspective, the main issue is the ways in which work skills are provided and produced, how markets for skilled labour are organized and how recruitment into more skilled positions operates. In this line of reasoning, the works by David Marsden (1986, 1990, 1993, 1997; cf. also Marsden and Ryan, 1995; Eyraud et al. 1990) provide probably the clearest statement of an institutional theory of stratification systems in comparative research. As most other research can easily be related to both his arguments and terminology, this section will outline the argument following his approach. Marsden phrases the contrast between the two polar stratification systems as one of *systems of internal labour markets* (ILM arrangements) versus *systems of occupational labour markets* (OLM arrangements). The key difference between the two is the presence of an education and training system providing occupationally-specific skills, thus transforming the stratification system from an ILM type into an OLM system (Marsden, 1986, holds the ILM system to be the *baseline* market arrangement, in the absence of a sufficiently specific training system).

The main difference in the operation of each model arrangement then is in the *institutional rules of access to skilled worker positions* (cf. Figure 1 for a graphical sketch of the reasoning), which are conceptually defined as positions requiring task-specific skills for productive work. In an internal market system, available educational credentials provide little guidance in allocating individuals and occupational tasks due to their lack of occupational specificity. Therefore, access to skilled positions should be strongly based on experience and mobility criteria: individuals' potential productivity in particular skilled positions can only be assessed from employment careers, most reliably from tenure. Similarly, task-specific skills are regularly provided as firm-specific skills, again strongly linking the allocation of skilled positions to work experience. In that sense, skilled positions are relatively sheltered both from external market competition and from competition with labour market entrants. Skilled positions thus exist as a sheltered internal segment of the labour market, while an external segment provides lower skilled employment and entry ports into firm internal labour markets.

In contrast to this, occupational market systems provide a quite different mechanism for attaining skilled worker positions: in this context, skilled positions are available to the external market, yet competition for these is restricted to those workers with the appropriate occupational skills. In this model, applicants have been presorted into specific occupational sub-markets where recruitment for

Figure 1 **Models of Internal and Occupational Labour Markets**



Source: Marsden (1993)

skilled positions takes place. Given such a training system delivering occupationally specific certified skills, available credentials in this case provide a sound basis for allocating workers and positions productively. Therefore, there is comparatively little need to resort to allocation mechanisms relying on experience or mobility. After all, the OLM model is thus argued to operate with a strong orientation towards external labour markets and inter-firm mobility in allocating skilled-level positions (cf. Marsden 1986, 1990, 1993; Eyraud et al. 1990).

The Consequences of Stratification Systems for Labour Market Entry

Education, work experience and mobility provide the means of labour allocation – with the foregoing discussion positing the existence of two distinct institutional equilibria relying either primarily on skill-based or strongly on experience-based mechanisms. As such, this institutional hypothesis does have a serious implication for labour market entry in different stratification systems: on the one hand, one expects to observe strong effects of differences in stratification systems as initially all individuals are newly allocated to positions. On the other hand, and more importantly, if the matching between persons and jobs to varying degrees relies on skills or experience, then the allocation outcomes of those lacking experience should differ markedly across systems. In the terminology of transition research, this is expressed in descriptions such as *OLM arrangements allowing for a structured labour force integration* in the sense of a strict channelling of individuals into positions by education and an immediate close match between qualifications and labour market positions. In contrast, labour market entry in *ILM systems* is much less tightly structured by education, less orderly, more amenable to career contingencies and firm behaviour. In a sense, the available supply of qualifications necessitates a *gradual integration into the labour force* by achieving job-skill matches primarily via work experience and mobility rather than initial skills (cf. Kerckhoff 1995; Müller and Shavit 1998; Marsden and Ryan 1995; but e.g. also the terms *regulated integration* versus *selective exclusion* by Garonna and Ryan, 1989).

This institutional contrast can actually be restated in terms of two basic premises that allow for generating a set of more detailed hypotheses on consequences of stratification systems - which can then be operationalized for use in the empirical analyses later on. These premises relate to a structural difference in terms of both labour market exclusion and positional attainment, and may be stated as follows:

(A) Exclusion Effect:

Labour markets vary in the evaluation of "least desirability". An ILM arrangement implies a relatively more positive evaluation of experience, sheltering the adult work force from competition with labour market entrants. Therefore, labour market exclusion exhibits a strong negative bias towards market entrants. In contrast, market exclusion in OLM contexts can be expected to operate mostly through lack of skills rather than experience.

(B) Attainment Effect:

Average initial job-person match quality is lower, but increases with labour force experience in ILM systems while OLM arrangements provide the base for an experience-constant match quality. As such, the scope for any type of labour market mobility - as a major means of match adjustment (cf. Jovanovic 1979; LeGrand and Tåhlin 1998) – is expected to be larger in ILM systems.

From these basic tenets, a set of more specific implications for labour market entry in different stratification systems follows, as will be outlined briefly (Table 1 provides an overview of these). Turning first to the *structure of externally recruited employment positions*, a crucial element of the ILM arrangement is that such outsiders, including labour market entrants, are recruited mainly into lower skilled positions, at least in comparison to the broader dispersion of contracting across skill levels enabled by OLM systems. Given the expected experience bias in ILM exclusion patterns (cf. assumption A), one can furthermore predict a contrast between either arrangement in terms of the *experience grading of exclusion risks*. Taking a broader view on exclusion, one can therefore expect that both unemployment and lower-skilled employment is much more concentrated among market entrants in ILM systems than in OLM contexts. In turn, drawing on the expected contrast in terms of qualifications, one can expect a stronger *qualificational stratification in initial exclusion risks* in OLM systems than in an ILM arrangement.

Based on the assumptions about early career adjustment processes (assumption B), one can moreover arrive at a set of additional institutional predictions related to *job mobility and career patterns of attainment*. From the notion that early career adjustment processes are necessitated by an ILM system while OLM systems allow for effective matches already at market entry, one can predict the following contrasts: first, there will be an *experience-graded pattern of job mobility* in ILM systems which will be absent in OLM contexts. As far as both arrangements ultimately yield similarly effective assignments, later career mobility rates will be similar and, in consequence, initial mobility rates comparatively higher in ILM systems. Apart from mobility patterns, career attainment profiles can be expected to look quite different for the two model arrangements. As ILM systems have to rely on firm-internal provision of training and internal promotion to more skilled positions, there is, secondly, a much greater role for *occupational and positional upgrading over early labour market careers* in these systems. Thus, a substantial experience effect on attainment is expected for ILM arrangements which should be absent in an OLM context. As occupational upgrading may be expected to be stratified by formal qualifications, this mechanism can be expected to lead to increasing differences in qualificational attainment with experience in ILM systems. Finally, as this mechanism by definition depends on firm-specific arrangements, this can be expected to imply increasing individual *variation in attainment patterns* with experience in ILM systems, which is part of the more flexible nature of this integration regime.

Table 1 Models Contrasted: Structural Differences between Market Arrangements

	ILM Arrangement	OLM Arrangement
Labour Mobility		
Extent of Labour Mobility in Early Career	Relatively high	Relatively low
Experience Structure of Labour Mobility	concentration on entrants	dispersion across experience groups
Labour Market Positions		
Positional Structure of External Recruitment	Concentrated on lower skilled positions	Dispersion across different levels of skills
Experience Structure of Lower Skilled Employment	Exclusive, risk concentration on entrants	Inclusive, risk dispersion across experience groups
Qualificational Structure of Lower Skilled Employment at Market Entry	Inclusive, risk dispersion across qualificational backgrounds	Exclusive, risk concentration on least qualified
Experience Structure of Unemployment	Exclusive, risk concentration on entrants	Inclusive, risk dispersion across experience groups
Qualificational Structure of Unemployment at Market Entry	Inclusive, risk dispersion across qualificational backgrounds	Exclusive, risk concentration on least qualified
Career Patterns of Attainment		
Payoff Progression with Labour Force Experience	Substantial	Flat
Initial Educational Payoff Premium	Low	Strong
Evolution of Payoff Differential with Labour Force Experience	Increasing differentials with labour market experience/tenure	Constant differentials with labour market experience
Payoff Dispersion within Skill Groups	Increasing dispersion with labour market experience/tenure	Constant dispersion with labour market experience

3. Methodological Approach and Institutional Hypotheses

The following analyses aim to address the analytical power of the institutional contrast between ILM and OLM stratification systems in a cross-national analysis of labour market entry patterns for twelve countries of the European Union. The analyses draw on data from the European Community Labour Force Survey, a standardised database compiled from the national Labour Force Surveys in the member countries of the European Union (cf. Eurostat 1996 for details).[1] The main advantage of the database is its coverage of a broad set of European countries with divergent institutional arrangements in educational systems and labour markets. Furthermore, Labour Force Surveys are geared towards comparative stratification analysis as they are conducted within regular survey periods applying standardised instruments to large survey sample sizes. In this paper, data for the period between 1992 and 1997 will be used.[2]

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[1] The data has kindly been provided by EUROSTAT, the Statistical Office of the European Union. Of course, EUROSTAT is not responsible for the use of the data, the interpretations drawn, nor the views held by the author.

For the analyses, a sub-sample of individuals in early career stages is drawn, namely all individuals in the labour force with no more than 10 years of labour force experience, having attained no more than ISCED level 3 qualifications[3] and not participating in formal education and training.[4] In passing, it is noted that *employment status* is measured according to the international standard definitions (cf. ILO 1990), with the exception that participation in formal education and training is given priority status to the ILO classification. As such, working pupils or students, but also apprentices or individuals in similar training environments are not considered as part of the active labour force. Secondly, *labour force experience* is not measured in the data, but rather proxied as potential experience, i.e. years since last leaving education and training. The analyses apply typical graduation ages as provided by OECD (1997). *Labour market attainment* is finally measured by three different concepts. The first one, unemployment, naturally follows from the ILO definitions applied. Furthermore, information on individual occupation is used to assess the nature of job positions. Occupations enter the analyses at two points: this information is used to define lower-skilled employment positions (cf. details in Table 2) and to construct an index of occupational status, applying the ISEI occupational status scale as developed by Harry Ganzeboom and colleagues (cf. Ganzeboom et al. 1992; Ganzeboom and Treiman 1996; Wegener, 1992, provides a general discussion of status scales).

To assess cross-national differences in the stratification of initial labour market outcomes, the relation of labour market attainment to education and experience is examined according to the expected structural contrasts between the institutional model arrangements as detailed in Table 1 above. To describe each aspect of labour market attainment considered, a set of auxiliary regressions of the format

$$(1) \qquad Y = b_0 + b_1(\text{ln experience}) + b_2(\text{intermed. skills}) + b_3(\text{ln experience} * \text{intermed. skills})$$

is estimated for each country and year in order to provide a measurement of skill and experience effects.[5] Added to this set of regression parameters, two simple proportion measures describe the overall extent of labour mobility and the relative importance of lower-skilled employment in external recruitment. Table 2 below provides full details of the estimates gained, linking these to the expected structural contrasts between ILM and OLM arrangements. In sum, the set of auxiliary regression results in an estimate of 11 indicators in total, measuring different aspects of the stratification of initial labour market experiences in our set of twelve European countries.

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[2] Because of small sample sizes and resulting unstable detailed estimates, Luxembourg is excluded from this study. Also, Sweden and Finland will be excluded from the analyses of the paper as complete data were available for 1997 only.

[3] ISCED level 3 corresponds to the completion of upper secondary education or complementary vocational training. Thus, individuals having obtained post-secondary or tertiary qualifications are excluded. This restriction is due to the expectation already implicit in the above discussion of market systems that cross-national variation is expected to apply primarily at the level of intermediate skills (Marsden 1990; Marsden and Ryan 1995; Müller and Shavit 1998; Hannan et al. 1999).

[4] Participation in formal education and training is specified as participation in initial training or training for other purposes if enrolment is either in general secondary level education tracks, tracks at vocational schools of at least one year duration, dual system training or tertiary level studies.

Table 2 Models Contrasted: Empirical Indicators of Labour Market Structure

Labour Mobility		
Labour Mobility in Early Career	**Mobility Rate:**	Proportion of employer or employment status change over the last year among last year's labour force
	Experience-Grading:	Experience effect b_1 on mobility rate
Labour Market Positions		
Structure of Recruitment Behaviour	**Lower Skill Bias of Recruitment:**	Ratio of the proportion of lower skilled employment among external recruitments to the proportion of unskilled employment among all other employment[1]
Structure of Secondary Labour Market	**Experience-Grading:**	Experience effect b_1 on lower skilled employment rate
	Qualificational Grading:	Qualification effect b_2 on lower skilled employment rate
Structure of Unemployment in Early Career	**Experience-Grading:**	Experience effect b_1 on unemployment rate
	Qualificational Grading:	Qualification effect b_2 on unemployment rate
Career Patterns of Attainment		
Payoff Progression	**Experience-Grading of Attainment:**	Experience effect b_1 on occupational status attainment
Payoff Differential between Skill Groups	**Qualificational Grading of Attainment:**	Qualification effect b_2 on occupational status attainment
Payoff Differential Progression	**Interaction of Experience and Qualifications on Attainment:**	Interaction effect b_3 of experience and qualifications on occupational status attainment
Payoff Dispersion within Skill Groups	**Experience-Grading of Attainment Dispersion:**	Experience effect b_1 on dispersion of occupational status attainment

Notes:
Parameters are gained from the following regression of respective macrolevel relations:

$$Y = b_0 + b_1(\ln \text{experience}) + b_2(\text{intermed. qualifications}) + b_3(\text{interaction ln experience-qualifications})$$

Dependent variables were labour force mobility rates, rates of lower skilled employment, unemployment rates and attainment levels and dispersion in terms of ISEI scores (cf. Figures 2-6 for partial graphical displays of the data used).

Lower qualifications – ISCED levels 0-2 (max. lower secondary education)
Intermediate qualifications – ISCED level 3 (upper secondary education)

Lower-skilled employment includes categories 421, 422, 512, 516-522, 611-615, 822-830, 832-933 of ISCO88-COM (cf. Eurostat 1996)

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[5] In one case, the setup of the auxiliary models differs: the mobility equation only controls for the main experience effect. All other equations include all three effects, even if not all parameters are considered later on.

Based on this setup, the analyses then attempt to empirically identify the theorized distinct stratification systems from and for the set of the countries under study. Keeping the notion of systemic features in mind, it is obvious that the expectation is to find two sets of clearly distinct stratification systems, tending towards the features of an ILM or OLM system, respectively. To identify such distinct systems, the chosen indicators must be assessed *simultaneously* in order to form groups of country-year cases which *exhibit consistent similarities and dissimilarities on the set of structural contrasts*, rather than singular deviations on some dimensions. To achieve this goal, cluster analyses are performed on the country-year cases in the sample. Effectively, both the "clusterability" of countries themselves as well as the substantive differences between groups of countries provide an empirical assessment of the institutional claims advanced so far. While the notion of clusterability obviously relates to the issue of fit between the cluster solution and real data, the consistency of the substantive differences in terms of stratification outcomes between country clusters and theoretical expectations is finally assessed by means of discriminant analysis.

As indicated earlier, this study builds on a rich set of previous analyses (cf. Hannan et al. 1997, 1999; Müller and Shavit 1998; Shavit and Müller, forthcoming; Allmendinger 1989 among others). Naturally, the formation of *hypotheses* concerning the classification of European countries in terms of the above framework draws heavily on this research. Ultimately, the expectation is that European countries adhere to one pole of either ILM or OLM stratification systems. As the structure of the education and training system has to be regarded as a major prerequisite for the development of each market arrangement, a *classification hypothesis* can essentially be based on the vocational specificity of the training system at the upper secondary level. Most observers have arrived at a basic distinction between educational systems focusing on the provision of school-based general education contrasted to those emphasising vocationally specific training, typically provided in the form of apprenticeship (cf. Hannan et al. 1997, 1999; Müller and Shavit 1998; Shavit and Müller, forthcoming). In general, the latter systems are to be associated with OLM arrangements as they provide specific skills already for those entering the labour market, while the former systems should tend towards ILM systems. Given the set of countries under study, this leads to expect a classification of Austria, Denmark, Germany, and the Netherlands as OLM systems as these countries have extensive apprenticeship systems and/or extensively occupationally differentiated school-based training systems (cf. the overview in OECD 1997, Hannan et al. 1999). According to the structure of education and training systems, the other EU countries should form a cluster of ILM countries.

Bearing in mind results from the above and related earlier studies, there are some particularly interesting country cases included in the analysis: for example, the estimated position of Denmark and the Netherlands will be of particular interest as vocational training is much more school-based as compared to the traditional dual-system countries of Austria and Germany. On the other hand, the position of the UK along the ILM-OLM axis has been an issue of some debate as some researchers claim a near-OLM context (e.g. Marsden 1990; Kerckhoff 1995), while others argue strongly against such an idea (cf. Soskice 1993). Furthermore, except for Marsden's (1990) result of Italy belonging to the ILM model, there is little systematic evidence on Southern Europe at all. In a sense, the empirical results are thus likely to indicate critical threshold(s) of the vocational specificity of training systems for transforming the stratification system into an OLM model. For now, the following section starts the presentation of empirical findings on labour market entry in EU countries in a descriptive fashion.

4. The Structure of Labour Market Entry across Europe

The following aims to provide a descriptive overview of some core structural features of labour market entry in the set of European countries. Since much of the theoretical argument amounts to expecting major cross-national differences in the role of labour force experience in the attainment process at the level of intermediate skills, the following descriptive presentation will mostly focus on results for this group.[6] In terms of substantive issues, the section addresses cross-national differences in the rate of labour market mobility, the incidence of unemployment and lower skilled employment as well as early career status attainment patterns of labour market entrants with intermediate skills across European Union countries. The final part of this section will then present a more thorough discussion of cross-national similiarities and differences in terms of the set of structural indicators developed above. It is noted in passing that all descriptive evidence presented in this section refers to average estimates for each country during the period 1992-1997, while country-year cases will be used in the analyses of Section 5 below.

4.1 Unemployment and Volatility in Early Careers

As a first indicator for cross-national differences in stratification systems, Figures 2 and 3 below provide evidence on unemployment risks and the volatility of initial labour market positions across the twelve EU countries under study. For the purpose of presentation, three sets of countries are tentatively grouped together in these and the following figures, consisting of the expected set of OLM-type countries (Austria, Denmark, Germany, the Netherlands), the Northern European ILM-type countries (Belgium, France, Ireland, the United Kingdom), and, finally, Southern Europe (Greece, Italy, Spain, Portugal).

Focusing on unemployment patterns first, Figure 2 below shows clear evidence of strong cross-national differences among EU countries. At the level of intermediate qualifications – equated with ISCED 3 level education here - there is an obvious contrast in unemployment experiences between young people in the set of potential OLM system countries in the left panel as compared to all other EU countries. In Austria, Denmark, Germany and the Netherlands, this group of labour market entrants face considerably lower unemployment risk, than their counterparts in other Western, Southern or Northern European countries.

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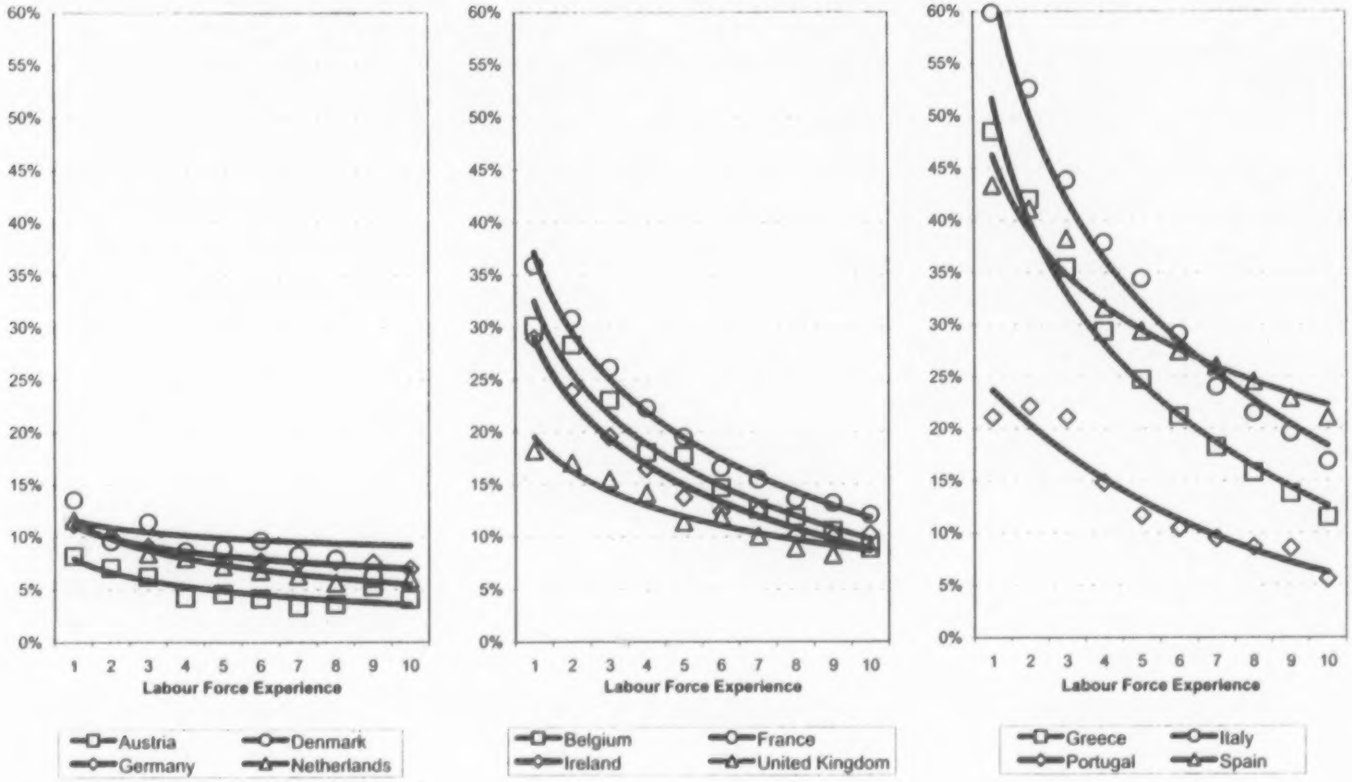
[6] Extended descriptive results are available from the author on request.

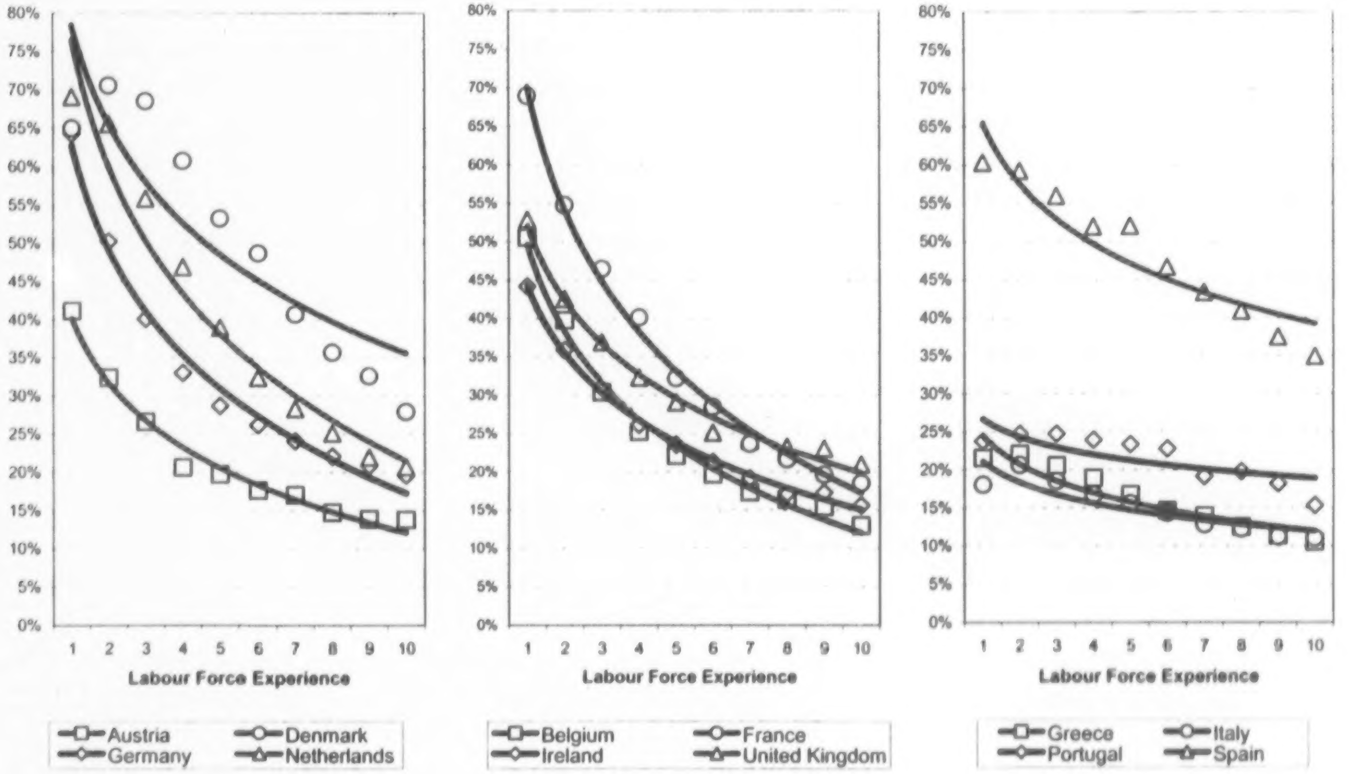
Figure 2 Unemployment Rates and Labour Force Experience



Notes: Lines represent smoothing of original estimates by logarithmic functions

Sources: *European Community Labour Force Survey 1992-1997, country averages*

Figure 3 **Job Mobility and Labour Force Experience**



Notes: Lines represent smoothing of original estimates by logarithmic functions

Sources: *European Community Labour Force Survey 1992-1997, country averages*

The most interesting contrast is less in the differences in overall levels but rather the extent to which these differences converge over the first years in the labour market. After a period of ten years, countries appear substantially less heterogeneous in terms of unemployment risks: this is due to the fact that in all countries except those in the left panel, a substantial *experience-grading of unemployment risks* is observed. That is, in the majority of European countries unemployment is concentrated among labour market entrants, yet unemployment risks wear off with time in the labour force. Thus, cross-national variation is both arguably strongest immediately at labour market entry and largely resolved with increasing labour force experience.

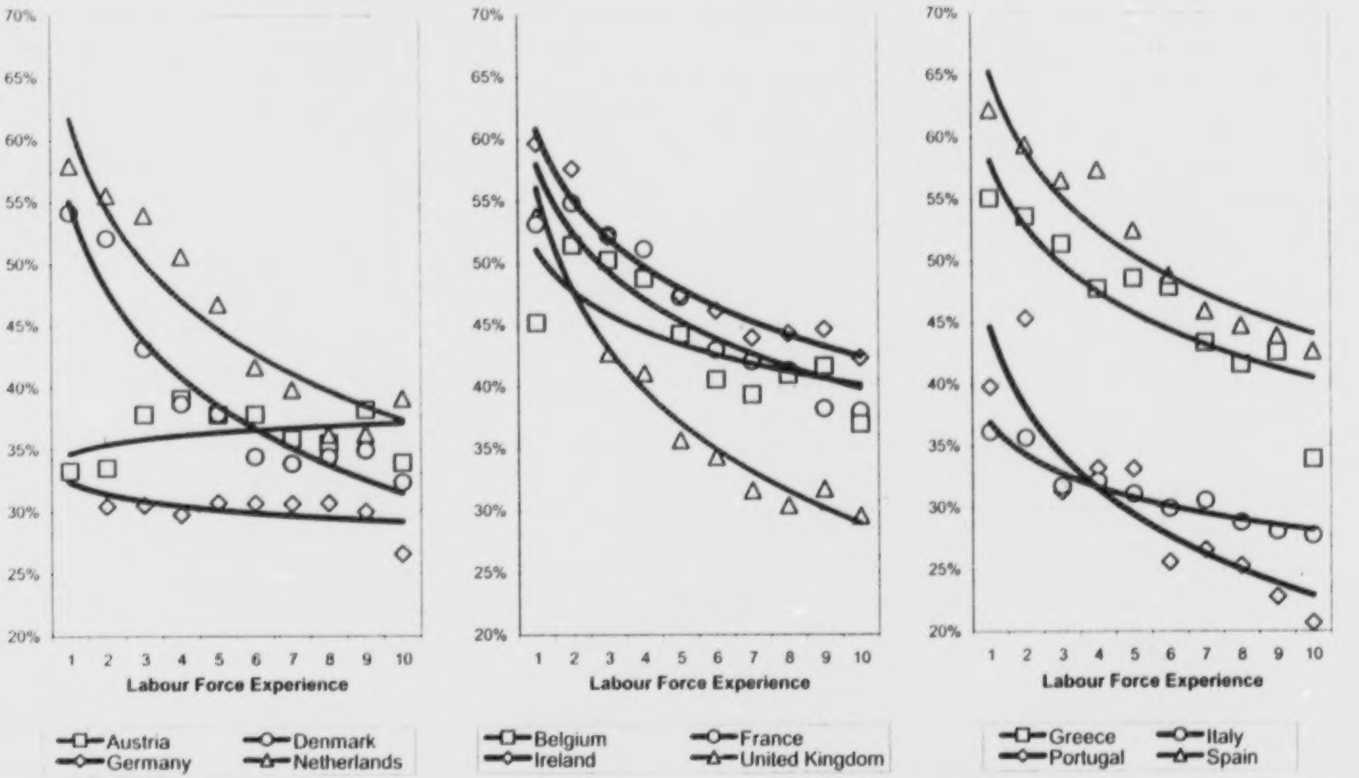
Does this result also imply that we observe little mobility and volatility in early careers in the set of potential OLM systems? Not exactly so, according to the results on labour market mobility rates given in Figure 3. Instead of a clear-cut contrast between the left panel of Figure 3 as compared to both the middle and right panels, a pattern common to all Northern European countries emerges. In these countries, initial employment is apparently much less stable than employment at later career stages. In the initial career stage, up to two thirds of young people in employment change employment and/or employment status within one year. This proportion is reduced to approximately 20%-30% over the first 10 years in the labour market. More detailed results in fact show some variation among Northern European countries in the relative importance of employment versus employment status changes in generating this overall mobility rate, which is consistent with the view that job-to-job rather than job-to-unemployment-to job transitions dominate the picture in the OLM-type countries of the left panel. Still, the similarity in terms of overall volatility levels and patterns of experience-grading is impressive and unexpected from theoretical considerations about ILM/OLM contrasts. Indeed, the major deviating cases are the Southern European countries, with the exception of Spain, where volatility of labour market positions is low even at the outset of labour market careers.

4.2 Lower-Skilled Employment and Career Patterns of Attainment

Apart from volatility in early career phases in terms of job mobility and unemployment risks, it is the nature of initial employment and the direction of occupational mobility that is important to the institutional argument assessed here. Specifically, it is of interest to see whether the structure of entry ports differs across countries.

As first evidence of this, Figure 4 shows results on the incidence of lower-skilled employment in relation to labour force experience. According to this indicator, there is one common pattern of labour market entry for the broad majority of European countries: in almost all countries, between 50%-60% of market entrants hold such lower-skilled positions at the very outset of careers, with this percentage being reduced afterwards by around 20% in ten years. This decline is most pronounced in early years in the labour force, indicating that major occupational upgrading occurs over the initial employment career. Among the twelve EU countries, however, Austria and Germany and in part Italy stand apart, exhibiting absent to weak effects of experience on the incidence of lower-skilled employment. Again,

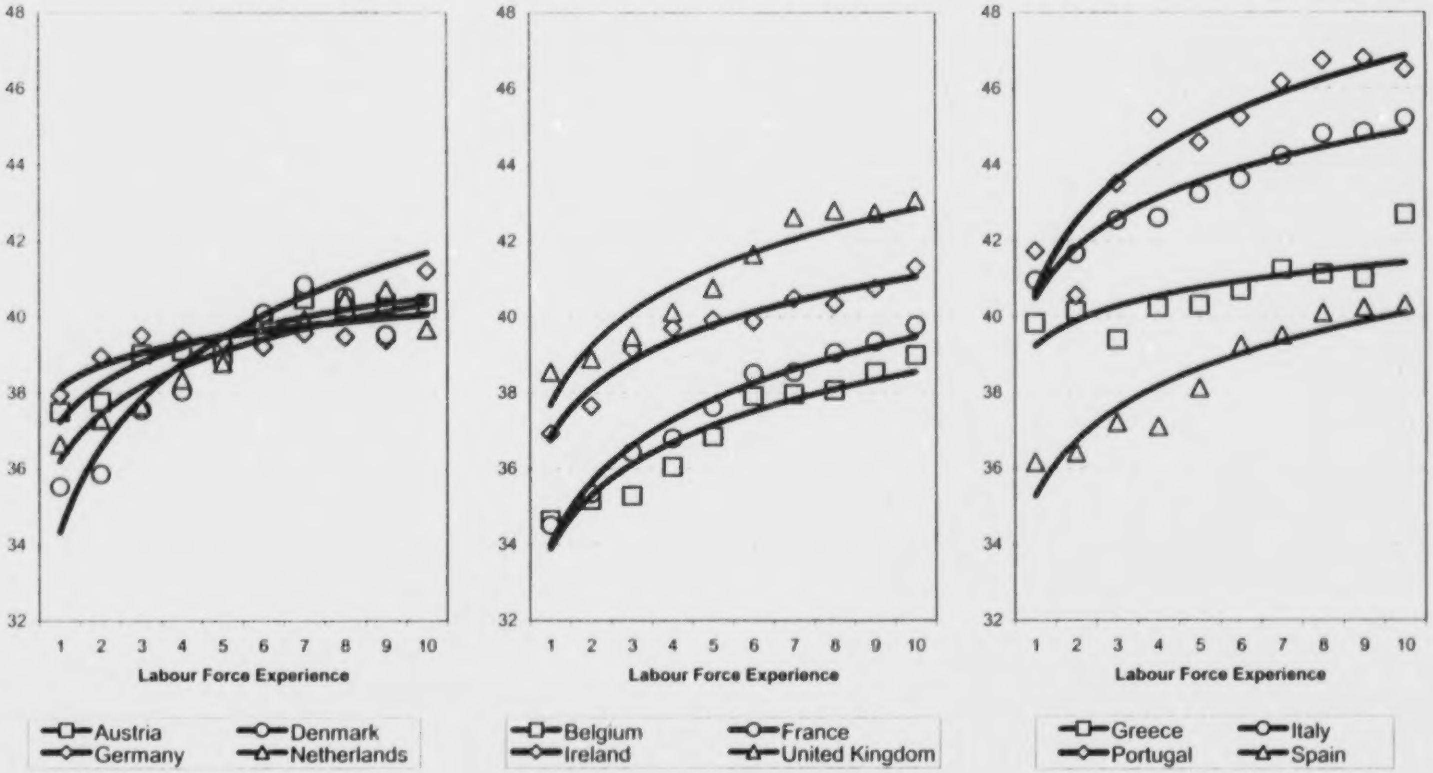
Figure 4 **Lower-Skilled Employment and Labour Force Experience**



Notes: Lines represent smoothing of original estimates by polynomial or logarithmic functions

Sources: *European Community Labour Force Survey 1992-1997, country averages*

Figure 5 Status Attainment (ISEI score) and Labour Force Experience



Notes: Lines represent smoothing of original estimates by polynomial or logarithmic functions

Sources: *European Community Labour Force Survey 1992-1997, country averages*

the overall proportion of lower-skilled employment after some five to ten years is quite similar to that found for other European countries. The cross-national difference is again one of early careers, although it is worth stressing the difference between Austria and Germany on the one hand and Denmark and the Netherlands on the other in this respect.

Such occupational upward mobility should naturally also be reflected in patterns of status attainment. Figure 5 presents the outcomes of this analysis, depicting the relation of ISEI status attainment to labour force experience. Again only marginal cross-national differences appear: the broad majority of European countries – all countries in the middle and right panels, including Denmark and maybe the Netherlands from the left panel – show a pattern of gradually increasing occupational status. Across the board, average status gains for ISCED 3 leavers are between 4-6 points over the initial ten years in the labour market. The only exceptions to this rule are again Austria and Germany, where occupational attainment patterns exhibit flatter slopes of approximately 2 ISEI points in ten years. Apparently, there is again some variation in this respect within the countries of the left panel, with Denmark and the Netherlands slightly deviating from the Austrian-German pattern.
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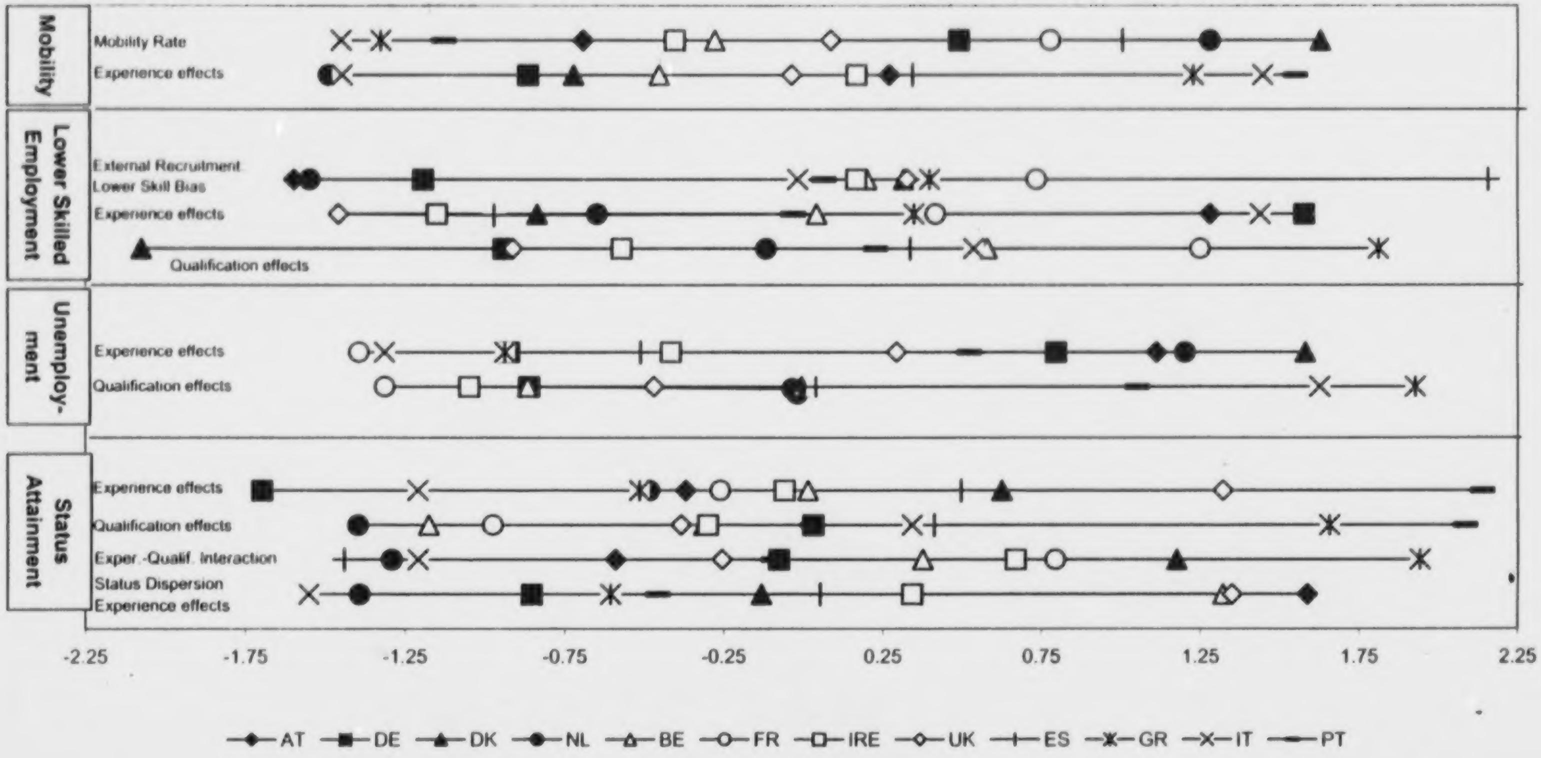
4.3 Summary: Country Differences in the Set of Structural Indicators

Having thus briefly discussed some core descriptive results and provided some flavour of the data used, I now turn to a description of cross-national differences in labour market entry patterns in terms of the structural indicators developed to identify the operation of the two distinct hypothesised stratification systems. As a summary of the country scores and country differences in these indicators, Figure 6 below provides the country scores on the set of indicators averaged over the available years. The data table in the lower part of Figure 6 reports the original scores, while the graph in the upper part of Figure 6 represents the z-standardised scores which will mostly be relied on for country comparison.

Taking a look at specific indicators, the two parameters describing labour market *mobility rates* in early careers in the twelve countries reiterate the results already reported above, slightly rephrased in terms of the chosen operationalisation. Judged from the z-standardised scores depicted in the graph, the

Figure 6 **Structural Indicators for European Entry Labour Markets**



Notes: Graph represents z-standardised indicator scores; original scores are provided in the table.

Sources: *European Community Labour Force Survey 1992-1997, country averages*

contrast between substantial mobility in all Northern European countries versus low mobility in all Southern European countries except Spain is again immediately evident. There is little in the data to suggest that mobility rates are lower for the set of hypothesised OLM systems, not even as compared to their Northern European counterparts. Rather, the expected OLM systems of Denmark and the Netherlands exhibit the highest mobility rates of all countries under study. In addition, the obvious result of strong experience effects on these rates in all Northern European countries versus largely absent experience effects for Southern Europe is also reproduced: in Northern European countries, we observe substantial volatility initially in careers, wearing off with increasing labour force experience. In Southern Europe, the pattern is one of low volatility once employment has been obtained, even if very early after leaving the education and training systems.[7]

The experience effect on *unemployment risks* and cross-national differences therein which have been discussed in Figure 2 above, are also reproduced in the respective indicator. As discussed at length, there is a division between countries in terms of largely absent experience effects in the set of expected OLM countries, clustering together at the upper end of the scale, compared to medium-level effects in the other Northern European countries and a very substantial dependence of unemployment on experience in Southern Europe. With respect to the issue of qualification effects on unemployment, there is again mainly a Northern-Southern European divide: in all Northern European countries, intermediate education provides clear (and similar) advantages in terms of lower unemployment risks as compared to compulsory education only. The relation is different in Southern Europe where better qualified leavers regularly face higher unemployment risks than their lower qualified counterparts.

Turning to the structure of *occupational and status attainment*, the results reported briefly above are again reproduced in the set of indicators. With respect to the issue of lower-skilled employment, there are some indications of a particular pattern among expected OLM countries. In this set of countries, recruitment from external markets typically includes a larger proportion of skilled positions and qualifications regularly play a more important role in avoiding lower-skilled positions. Moreover, in Austria and Germany at least, there is little evidence of any experience effect on the incidence of lower-skilled employment, indicating a very clear difference of entry ports to the market in those two countries. In part, this result is also reflected in the parameters for status attainment. There is some evidence that the potential OLM countries, on average and with some variation, differ from their Northern European counterparts, showing slightly weaker experience and somewhat larger qualification effects on status attainment, combined with less increase in the qualificational differential over initial years in the market. Moreover, the dispersion of status attainment within skill groups seems lower in that set of countries than in the rest of Northern Europe. Yet, the most pronounced difference is to the Southern European countries, which all have very strong qualification effects on status attainment which generally change little over initial careers, and an almost unchanged status dispersion with time in the labour force. Attempting to make these observations more systematic, the analyses now turn to the question of whether it is possible to discern from these indicators the operation of distinct stratification systems in European countries and, if so, in which respects these systems consistently differ.

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[7] To provide an example: the experience effect on mobility rates gives the estimated change in that rate per logged year of labour force experience, i.e. the more negative the effects, the stronger the rate declines with

5. Distinct Patterns of Labour Market Entry?

As discussed briefly in Section 3 above, the similarities and differences in European entry labour markets are assessed from the outcome of country group formation by means of cluster analyses and the consistency of the substantive cross-national differences in stratification patterns with the paper's theoretical arguments. The next sub-section discusses the results achieved from that, while the following one contains the result of subjecting the preferred cluster solution to discriminant analysis as the test for substantive differences in terms of stratification patterns.

5.1 Cluster Analysis for the Set of Labour Market Indicators

Figure 7 below presents results from a cluster analysis performed on 66 European country-year cases for the set of structural indicators as detailed in Table 2. Clustering has been carried out using the Ward algorithm based on a squared Euclidean distance matrix of z-standardised transforms of the labour market indicators. The figure presents both the fusion process in terms of the cluster dendrogram and a set of statistics regularly reported for solution assessment. It is impossible to discuss the choice of the specific clustering algorithm and the selected statistics shown here, but the interested reader is referred to e.g. Bacher (1994), Everitt (1993), Aldenderfer and Blashfield (1984), Kaufman and Rousseeuw (1990) or related literature. It may suffice here to clarify that the Ward algorithm belongs to the broad class of hierarchical clustering algorithms and specifically achieves a sequential fusion of least deviant cases or clusters. Acknowledging the arbitrariness of algorithm choice, it is a relief to be able to note that the substantive conclusions from the specific analysis shown appear reasonably stable even with some variation in clustering algorithm as well as in analyses based on country cases only.

From the analysis presented, the first reassurance relates to the institutionalist claim about the importance of national institutional arrangements, which are thought of as a set of stable context factors underlying socio-economic behaviour. As there are up to six years available for each country in the sample, there is some scope for within-country variation in the set of indicators. Still, the fusion process very clearly parcels out country clusters from country-year cases first and only then proceeds to cluster country cases. This is a first indication that annual variation in the chosen indicators is both relatively less important and occurs within national settings. A closer look at the fusion process reveals

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experience. In turn, the most positive values are close to zero, indicating almost absent experience effects.

Figure 7 Cluster Analysis on Patterns of Labour Market Entry

Cluster Dendrogram

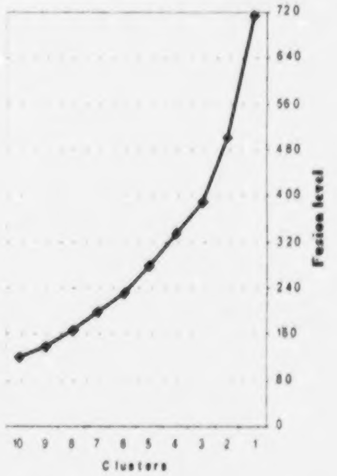
```
                         Rescaled Distance Cluster Combine

    C A S E      0         5        10        15        20        25
  Label     Num  +---------+---------+---------+---------+---------+

  IT1992    43    -+
  IT1993    44    -+
  IT1994    45    -+-----------+
  IT1995    46    -+           I
  IT1996    47    -+           I
  IT1997    48    -+           I
  GR1993    33    -+         5 +-----------------------------------+
  GR1995    35    -+           I                                   I
  GR1994    34    -+-----+     I                                   I
  GR1996    36    -+     I     I                                   I
  GR1997    37    -+     I     I                                   I
  GR1992    32    -+   8 +-----+                                   I
  PT1992    55    -+     I                                         I
  PT1994    57    -+     I                                         I
  PT1997    60    -+-----+                                         I
  PT1993    56    -+                                               I
  PT1996    59    -+                                               I
  PT1995    58    -+                                               I
  BE1993     4    -+-+                                             I
  BE1997     8    -+ +-------+                                     I
  FR1996    30    -+ I       I                                     I
  FR1997    31    -+-+       I                                     I
  FR1994    28    -+         I                                     I
  FR1995    29    -+         I                                   2 I
  FR1993    27    -+         I                                     I
  ES1994    23    -+       6 +---------------+                     I
  ES1996    25    -+         I               I                     I
  ES1997    26    -+-----+   I               I                     I
  ES1993    22    -+     I   I               I                     I
  ES1995    24    -+     I   I               I                     I
  ES1992    21    -+     I   I               I                     I
  UK1996    65    -+     I   I               I                     I
  UK1997    66    -+   9 +---+               I                     I
  UK1994    63    -+     I                   I                     I
  UK1995    64    -+---+ I                   I                     I
  UK1993    62    -+   I I                   I                     I
  UK1992    61    -+   I I                   I                     I
  BE1994     5    -+ 10+-+                   I                     I
  BE1995     6    -+   I                     I                     I
  BE1996     7    -+   I                   3 +---------------------+
  IE1996    41    -+---+                     I
  IE1997    42    -+                         I
  IE1995    40    -+                         I
  IE1993    38    -+                         I
  IE1994    39    -+                         I
  AT1995     1    -+                         I
  AT1997     3    -+---+                     I
  AT1996     2    -+   +-------+             I
  GE1996    13    -+   I       I             I
  GE1997    14    -+---+       I             I
  GE1994    11    -+           I             I
  GE1995    12    -+           I             I
  GE1992     9    -+           I             I
  GE1993    10    -+         4 +-------------+
  NL1993    50    -+           I
  NL1994    51    -+           I
  NL1992    49    -+           I
  NL1995    52    -+-----+     I
  NL1996    53    -+     I     I
  NL1997    54    -+   7 +-----+
  DK1993    16    -+     I
  DK1994    17    -+-+   I
  DK1997    20    -+ +---+
  DK1995    18    -+ I
  DK1996    19    -+-+
  DK1992    15    -+
```

Cluster Solution Statistics
(only last 10 steps)

K	V_t	SSQ_{in}	η^2	PRE
10	118.5	159.4	0.81	0.15
9	138.1	187.5	0.78	0.15
8	167.6	221.9	0.74	0.17
7	198.2	266.7	0.69	0.15
6	231.8	314.1	0.63	0.15
5	279.2	371.4	0.57	0.17
4	334.1	446.3	0.48	0.16
3	389.6	528.9	0.38	0.17
2	502.1	640.7	0.25	0.25
1	715.0	859.6	-	-

K	F_{Beale}	Sign.	Mojena I	Mojena II
10	3.23	0.08	4.67	2.57
9	3.42	0.07	5.19	3.01
8	3.84	0.05	5.51	3.24
7	3.44	0.07	5.64	3.35
6	3.59	0.06	5.91	3.61
5	4.03	0.05	6.12	3.78
4	3.77	0.06	6.08	3.76
3	4.37	0.04	6.71	4.35
2	7.18	0.01	8.27	5.50
1	-	-	-	-

Inverse Scree Diagram



Notes: Clustering is carried out by applying the Ward algorithm using a squared Euclidean distance matrix based on z-standardised transforms of labour market indicators (cf. Table 2 and Figure 6).

Source: European Community Labour Force Surveys, 1992-1997

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that actually more than 85% of the variation in the set of indicators as measured by η^2 is between countries, while less than 15% is due to within-country annual variation.

What then is the substantive content of the country clustering achieved - and how well do countries cluster? Judged from the dendrogram depiction of the fusion process and the fit statistics, especially the most conservative F_{Beale}-test applied here, a solution distinguishing three clearly separated country clusters appears most appropriate. The *country clusters distinguished thus are (1) a cluster of Southern European countries comprising Italy, Greece and Portugal, (2) a cluster of North-Western European countries including Belgium, France, Ireland, the United Kingdom, but also Spain, and (3) a final cluster consisting of Austria, Denmark, Germany and the Netherlands.* Apparently, this result has two immediate implications: first, the distinction within the group of Northern European countries is apparently well in line with both institutionalist arguments and current research reviewed extensively in earlier sections. Those countries where education and training systems are strongly vocationally orientated are clearly separated from those countries that do not have such training arrangements; in this sense, there is some support for arguments about the existence of distinct stratification systems - the precise nature of which will be assessed below – and their close relation to institutional arrangements of linking education and training systems to labour markets. But apart from that and unexpected from the perspective of a theory linking stratification systems to institutional arrangements in training systems, the stratification patterns observed for – broadly speaking - the Southern European countries also stand out distinctly. Thus, while the popular dichotomy of stratification systems presumably taps an important aspect within Northern European labour markets, it is far from clear how the Southern countries fit into that one-dimensional framework. Rather, it seems that alternative institutional arguments have to be supplemented in order to provide a satisfactory account of Southern patterns of market entry. Some suggestions regarding this issue will be developed in the concluding section.

Returning for a moment to the results, some caveats about the approriateness of the cluster solution have to be added here. On the one hand, the simple three cluster solution chosen for further investigation seems remarkably powerful in terms of "explained" variation as it captures roughly 40% of the overall variation in the set of indicators. This gives yet another indication of the extent to which major differences in labour market entry are effectively located between broad sets of countries. On the other hand, the question naturally arises whether the chosen fusion point is the most natural to stop at. At least, the less conservative Mojena I/II tests would suggest the country level clustering or a nine cluster solution as more appropriate; moreover, the PRE error reduction brought about by lower levels of aggregation is still substantial and even the F-test for marginal improvement is hovering around p-levels of .05. So a more cautious interpretation would clearly be that there are important national differences within each country cluster distinguished, which then simply cannot be addressed from the very generalist framework adopted here. On the other hand, one still has to acknowledge that this occurs against the background of a clear distinction of three sets of countries, so that further country differences appear minor compared to those differences in stratification systems explored here. Still, the immediately adjacent four-cluster solution may deserve special attention in further research for a number of reasons. This solution offers an additional split within the OLM countries between Austria and Germany on the one hand and Denmark and the Netherlands on the other. The fact that this is the "next most important split" in the data, which corresponds very well with the difference between the countries in terms of school-based versus apprenticeship-based provision of vocational training, may suggest that these countries' institutional arrangements are each located at a particular threshold of "OLM-likeness" in the stratification system. Of course, this issue would best be pursued in more detailed case studies of these countries. Naturally, this applies to other established contrasts as well, and some comments on this will follow in the concluding section.

Having identified the above three-cluster solution as the main result of the clustering step, Table 3 finally presents results from a small-scale sensitivity analysis for that solution, based on the deletion of single indicators from the calculation of the distance matrix. After all, the substantive cluster solution preferred also exhibits a sensible degree of stability in that exercise. As judged from the results given in Table 3, no single aspect of the stratification of early careers is of decisive importance for arriving at the solution discussed here. Rather, the clustering outcome presented here seems to follow from the simultaneous consideration of the full range of indicators; deleting single indicators regularly induces little change in the results. Of all variables under study, the issue of unemployment deserves special attention as probably the most influential aspect in the analyses: removing unemployment from the analyses actually leads to a major reallocation of the countries, namely an allocation of Denmark and the Netherlands together with the group of Northern ILM-type countries rather than with Austria and Germany, providing further evidence of some heterogeneity within the small set of OLM systems.

Table 3 Sensitivity Analysis for Cluster Analysis Results

Variables included	3-Cluster Solution	4-Cluster Solution
BASE: FULL MODEL	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE,DK,NL)	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE) – (DK,NL)
(1) B – labour mobility	(GR,IT,PT) – (BE,DK,ES,FR,IE,UK) – (AT,GE,NL)	(IT) – (GR,PT) – (BE,DK,ES,FR,IE,UK) – (AT,GE,NL)
(2) B – lower-skill bias in recruiting	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE,DK,NL)	(IT) – (GR,PT) – (BE,ES,FR,IE,UK) – (AT,GE,DK,NL)
(3) B – lower-skilled employment	(GR,IT,PT) – (AT,BE,ES,FR,IE,UK) – (GE,DK,NL)	(IT) – (GR,PT) – (AT,BE,ES,FR,IE,UK) – (GE,DK,NL)
(4) B – unemployment	(BE,DK,ES,FR,IE,NL,UK) – (GR,PT) – (AT,GE,IT)	(GR,PT) – (BE,ES,FR,IE,UK) – (DK,NL) – (AT,GE,IT)
(5) B – status attainment	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE,DK,NL)	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE) – (DK,NL)
(6) B – status attainment dispersion	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE,DK,NL)	(GR,IT,PT) – (BE,ES,FR,IE,UK) – (AT,GE) – (DK,NL)

Notes: Clustering is carried out by applying the Ward algorithm using a squared Euclidean distance matrix based on z-standardised transforms of labour market indicators (cf. Table 2 and Figure 6); reference full model is the one detailed in Figure 7.

Source: European Community Labour Force Surveys, 1992-1997.

5.2 Distinctive Features of Market Entry in Different Stratification Systems

As a final step in the analysis, the substantive differences between stratification systems as identified from the three cluster solution singled out above are of primary interest. Table 4 below presents the structure matrix and related statistics from a discriminant analysis of the three sets of countries in terms of the set of indicators.

The main outcome of this final analysis is the extraction of two discriminant functions summarising distinctive features of the three stratification systems distinguished. Among these, the first and more powerful one distinguishes the Southern European from the two Northern European country clusters: the three Southern European countries (excluding Spain) are located in the positive area of the function, while all Northern European countries (including Spain) tend towards the negative end of the scale. According to the correlations between indicators and canonical discriminant functions as given in the structure matrix, there are apparently *three main factors distinguishing the Southern European countries from the remaining EU countries: (1) low rates of mobility in early career,*[8] *(2) low qualification effects on market exclusion, especially unemployment, and (3) high qualification effects on attainment.* The magnitudes of the correlations indicate that differences in mobility rates and the qualificational stratification of unemployment are the most important factors differentiating Southern European from Northern European countries, although the differences in skill differentials in status attainment are certainly also pronounced.

The second discriminant function then mainly separates the two Northern European country clusters (including Spain), broadly consistent with the expectation of a dichotomy of ILM-type versus OLM-type stratification systems. *The differentiating aspects here are (1) lower experience effects on unemployment, (2) a smaller bias towards lower skilled jobs in external recruitment, (3) lower experience effects on attainment dispersion, (4) stronger qualification effects on the incidence of unemployment, and (5) lower experience effects on the incidence of lower skilled employment in the group formed by Austria, Denmark, Germany, and the Netherlands as compared to the other Northern European countries.* Comparing the magnitude of correlations again, the first two factors appear the most relevant in drawing the line between the two groups of countries. That is, the group of OLM-type systems is mainly distinguished from its ILM-type counterparts in terms of unemployment not being concentrated on market entrants (but rather on the lowest qualified) and a stronger tendency also to hire into skilled jobs from external markets. Apart from that, the dispersion of status attainment with time in the labour force is lower and young people, finally, also move less out of lower skilled employment with time in the market, mostly because the incidence of such employment among

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[8] Consider again the different types of experience effects as an example: the experience effects on unemployment or mobility give the estimated change in unemployment or mobility rates per logged year of labour force experience, i.e. the more negative the effects, the more strongly the respective rates decline with experience. In turn, the most positive values are close to zero, indicating almost absent experience effects. The respective entries in the structure matrix thus are to be read in the sense that the more positive, i.e.

Table 4 Discriminant Analysis of Country Cluster Solution: Structure Matrix

Indicator	Discriminant Function 1	2
Unemployment: Qualification Effect	0.390	0.181
Labour Force Mobility: Experience Effect	0.370	-0.081
Labour Force Mobility: Rate	-0.335	0.087
Status Attainment: Qualification Effect	0.258	0.038
Lower-Skilled Employment: Qualification Effect	0.159	-0.139
Unemployment: Experience Effect	-0.149	0.340
External Mobility: Lower Skill Bias	0.042	-0.325
Status Attainment Dispersion: Experience Effect	-0.101	-0.186
Lower-Skilled Employment: Experience Effect	0.089	0.153
Status Attainment: Experience Effect	0.024	-0.099
Status Attainment: Experience-Qualification Interaction	-0.047	0.047
Eigenvalue	18.807	9.528
Proportion of Variance	66.4 %	33.6 %
Canonical Correlation	0.974	0.951
Discriminant Functions at Group Centroids		
1: AT GE DK NL	-3.262	3.755
2: BE ES FR IRE UK	-2.041	-3.321
3: IT GR PT	6.867	0.601

Notes: Cluster solution analysed is the three-cluster solution singled out of the analysis detailed in Figure 7.
Source: European Community Labour Force Survey 1992-1997.

intermediate skills is lower from the outset of careers. After all, this empirical evidence on the substantive features differentiating both types of Northern European countries does appear very much in line with the expectations derived from the institutional reasoning about ILM and OLM types of systems discussed at length in the theoretical sections above. It clearly is the case that these sets of countries differ in the relative reliance of attainment processes on either educational skills or labour force experience. As such, it seems reasonable to think of this contrast as consequence of the specific institutional mechanisms of allocation as suggested by Marsden's framework or related works. Still, it has to be recognised that the country contrast is driven by differences in terms of both employment and unemployment patterns, probably even more strongly by differences in the latter. Such a result is not fully captured in current institutional reasoning centred around the association between education and occupational outcomes, though the theoretical part of this paper already attempted to argue about consistent differences between ILM and OLM systems in both market exclusion and market attainment in early careers. Apart from that, the most intriguing weakness of the currently used dichotomy of stratification systems is that - although it has been possible to identify a distinct Southern European cluster based on critical parameters suggested by current institutional reasoning – it offers little substantive explanation for this pattern. More comments on this follow below.

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absent, experience effects on mobility and unemployment, the higher the discriminant score on function 1 or 2 respectively.

6. Conclusions

What then has been learned about entry labour markets in European Union countries and the relation of cross-national differences to differences in the institutional linkage between training systems and labour markets? The concluding section of this paper, attempts both to summarise the empirical results on labour market entry in Europe and to draw a set of conclusions, touching upon issues of research design and the possibility of empirical assessments of institutionalist arguments, the quality of information in the database employed and which information it fails to provide, as well as the analytical power of current theorising in comparative stratification research about the existence and effects of a dichotomy of stratification systems, linked to the occupational specificity of education and training systems.

At first glance, the current paper simply provided a rich set of empirical results on different aspects of the process of labour market integration in the countries of the European Union. And although some broad similarities do appear from the analyses, the major outcome is to establish consistent differences between sets of European countries in terms of crucial features of labour market entry processes. Indeed, here the analytical value of the notion of stratification systems is self-evident: identifying relevant sources of cross-national differences clearly enough to allow for operationalisation and empirical measurement of core concepts is well on the way to understanding the impact of different institutional arrangements in these societies. Allocation mechanisms in different systems vary in their relative reliance on either educational skills or experience and mobility – and in consequence lead to different patterns of labour market entry.

Summarising the empirical results of this study, there is indeed substantial support for an institutional account of cross-national differences in labour market entry patterns. On the one hand, institutionalist reasoning is supported by the general result that most cross-national variation is actually variation in *national* contexts, irreducible to short-term variation of whatever origin. Moreover, the notion of stratification systems gains considerable appeal from noting how much of the cross-country variation in labour markets is effectively captured within a small subset of country clusters as distinguished here. Entry labour markets are clearly distinct in terms of features such as the extent of recruitment into lower-level entry port jobs, the scope for upward occupational mobility or the stratification of market exclusion. Specifically, the contrast among Northern European countries between an ILM system group formed by the United Kingdom, France, Ireland and Belgium, and a set of OLM systems operating in Austria, Denmark, Germany, and the Netherlands differing precisely in the relative importance of education or experience in allocation processes appears closely in line with current institutional arguments. There is a larger role for experience effects and mobility in channelling the flow of individuals into positions in the context of institutional arrangements provided in the set of these ILM countries. To put it slightly differently, the less allocation mechanisms in stratification systems rest on experience and mobility criteria, the less early labour market careers differ from later ones and the less "problematic" labour market entry appears. Given the close coincidence of empirically identified systems with types of institutional arrangements in education and training systems, it is quite plausible that the interlinkage of education and training systems and labour markets is a key institutional factor in transforming stratification systems.

Of course, much of this result rests on the specific context and empirical approach of the study. Actually, this study claims no more than to provide a serious proposal for identifying the impact of institutional arrangements empirically, extending Marsden's earlier attempts (1990; Eyraud et al. 1990). Naturally, concrete operationalisations owed as much to database content and limitations as to the original theoretical concepts. As such, the major limitation of using the European Community Labour Force Surveys has to be seen in their fully cross-sectional design which prevents one from exploring mobility structures in any detail. An extended replication of at least parts of the analyses with longitudinal data would certainly be warranted for further validation of the conclusions drawn here. Moreover, replication of even the present research setup on a larger set of countries, including non-European Union ones, could contribute to a further and stricter test of the general argument. Still, both the substantive and analytical results from this study potentially provide some direction for further research.

Based on the analyses conducted here, there are at least two obvious points of departure for further inquiry: first, investigating further cross-national differences within the major types of stratification systems more closely, and second, attempting to incorporate the existence of a distinct system type of Southern European countries into the theoretical toolkit of comparative stratification research. Turning to the former issue first, it is obvious that the amount of within-cluster variation points to the fact that although the ILM-/OLM-system contrast taps an important aspect of cross-national differences in labour market entry, it is far from being the only relevant one. National variations within the broader configurations and the source of deviating features certainly form a worthwhile object for further empirical and institutional analyses. As suggested in Section 5, the contrast between OLM arrangements in Austria and Germany versus those in Denmark or the Netherlands is an especially interesting case, as the results could be read as pointing to the existence of institutional thresholds of "OLM-likeness" of systems. Alternatively, one might argue that labour market entry in Denmark and the Netherlands currently appears similar to patterns found for Austria and Germany only because of the presently favourable aggregate labour market situation in these countries. If so, then only extended historical comparisons will yield more definite answers. As this single example should suggest, additional and well-directed in-depth comparative case studies for crucial country cases may well be expected to provide future fine tuning of institutional explanations of labour market entry.

Second, it seems equally relevant to theoretically acknowledge the operation of a distinct Southern European pattern of stratification in both the analysis of labour market entry and comparative stratification research in general (cf. also Roberts 1999). It is apparent that Southern European countries show a specific mixture of structural features of early labour market careers: here both strong qualification *and* strong experience effects occur, in conjunction with very high unemployment risks at the outset of careers, yet rather little volatility once initial employment has been secured. That is, the Southern European patterns appears to mix elements present in ILM-type systems – as in the role of experience effects on lower skilled employment - and OLM arrangements – where larger qualificational differentials in rewards appear – with their specific peculiarities such as an absence of qualificational stratification of unemployment and low mobility even at market entry. Some of these more ILM-type features were to be expected considering the institutional arrangements in Southern European education and training systems. Still, major parts of the findings do not fit easily into a dichotomous contrast of ILM versus OLM systems, as derived from considering variation in the institutional structure of education and training systems as the main variable of interest.

A superficial glance at alternative literature seems to suggest the importance of at least two additional institutional complexes, which should make it possible to integrate the "Mediterranean" model into an institutional argument, namely labour market legislation and the role of the family. Interestingly, there seems to be initial support for both strands of the argument: first, the "deviant" case of Spain could effectively stem from a deliberate political attempt to alleviate the perceived obstacle of strict labour legislation and to make youth labour markets more flexible by introducing fixed-term contracts - and the excessive use of these types of arrangements afterwards transforming the stratification system into the ILM model (cf. Bentolila and Dolado 1994 for an overview of the changes that have occurred): On the other hand, it is regularly reported for Southern European countries that extensive family support enables young people to wait until adequate employment can be attained (Bernardi et al. 1999), providing a consistent account for the observed combination of strong qualification effects on occupational attainment in conjunction with strong experience effects on market exclusion. In combination with still effective strict labour legislation reducing volatility and mobility in the three Southern European countries clustered together here, both strands could yield a consistent argument on the institutional foundations of this system. Naturally, only future research will be able to provide adequate answers.

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Education and Labour Market Entry across Europe: The Impact of Institutional Arrangements In Training Systems and Labour Markets

Markus Gangl

Mannheim Centre for European Social Research (MZES)
University of Mannheim
P.O. Box 10 34 62
D-68131 Mannheim
Germany
E-mail: Markus.Gangl@mzes.uni-mannheim.de

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Abstract

Education is the main resource of young people entering the labour market for securing employment, in competing for adequate employment contracts and in fulfilling occupational aspirations. As European countries differ widely in the institutional structure of their education and training systems and labour markets, different resources are provided to school-leavers entering into working life in different countries, who additionally face varying institutional and economic contexts in labour markets. The paper empirically addresses the crucial role of educational qualifications for successful labour market entry in twelve European countries in the mid-1990s, drawing on the 1992-1997 European Community Labour Force Survey. The main aim of the analyses is to gauge the extent to which cross-national differences in labour market outcomes for market entrants can be related to institutional differences between countries in terms of differences in qualification profiles of school leavers and differences in terms of the relationship between qualifications and early labour market outcomes. The analyses cover unemployment and occupational allocation as two major dimensions of early labour market outcomes, applying multilevel modelling to a database of repeated comparative cross-sectional surveys. The results indicate that institutional differences in both education and training systems and labour markets play a major role in explaining cross-national differences in the experiences of young people entering the labour market in EU countries, even allowing for the effects of variation in economic conditions and other unmeasured heterogeneity between countries and types of qualifications.

1 Entering the Labour Market in Europe: A Cross-National Perspective

It is by now widely recognized that transition processes from education into working life vary markedly across countries. The extent to which young people entering the labour market are subject to spells of unemployment, employment in specific entry-level occupations and industries, or prolonged periods of precarious employment situations differs markedly among European Union member states (OECD 1996, 1998). In countries like France, Greece, Italy, or Spain, youth unemployment is a major problem with unemployment rates among recent school leavers amounting to more than 30% or even 40%, sometimes accompanied by massive state intervention to reduce the extent of the problem. Other countries like the United Kingdom or Ireland see less of a unemployment problem, but there are concerns about low levels of training, allocation of young people to lower-level jobs and excessive job hopping and mobility in the early years in the labour force. In yet another set of countries, notably Austria, Denmark or Germany, the integration of young people into the labour market appears much less problematic. There, youth unemployment rates are generally very much in line with those among more experienced workers and concerns about the allocation of market entrants are relatively weak.

There is, however, abundant evidence that these cross-national differences in labour force outcomes are much reduced in the prime-age labour force (Kerckhoff, 1995; Layard et al., 1991). One implication of this might be that cross-national differences at the outset of employment careers reflect the operation of distinct institutional arrangements of labour market entry in Europe, providing alternative mechanisms for integrating young people into the labour force (Hannan et al., 1999; Müller and Shavit, 1998; Shavit and Müller, 2000, forthcoming; Kerckhoff, 1995, forthcoming; Allmendinger, 1989). The institutional structure of education and training systems has long since been considered a likely explanation for cross-national differences at labour market entry in general, and the remarkably better performance of countries operating (dual) systems of occupationally-specific training at the secondary level like Austria, Denmark, the Netherlands or Germany in terms of relatively low levels of both youth unemployment and secondary sector employment among youth (Hannan et al., 1999; Müller and Shavit, 1998; OECD 1998; Allmendinger, 1989). The main argument in this body of literature is to relate transition patterns and outcomes to the structured integration (Garonna and Ryan, 1989) occurring through the provision of transferable occupational skills and extensive work experience with a specific employer in the context of dual training system arrangements, mostly apprenticeships, enabling market entrants to effectively compete for jobs in occupationally segmented labour markets (Marsden, 1986, 1990; Marsden and Ryan, 1995). In countries lacking such systems of training provision, in contrast, early labour market careers are said to exhibit more volatility, unemployment and job mobility, reflecting more extensive periods of initial job search and the acquisition of work experience through mobility and job hopping (Kerckhoff, 1993, 1995; Rosenbaum et al., 1990; Scherer, 1999).

There are of course various counter-arguments challenging the validity of the sketched and simplified institutional account. A first one might consist of simply acknowledging the more favourable macroeconomic conditions in the set of dual system countries, which might be sufficient to explain the better prospects of market entrants there. In a similar vein, cross-national differences in industrial or occupational structure might be pointed out and related to differences in industrial or occupational allocation of people leaving education and training. Alternatively, one might note that education and training systems are internally heterogeneous in the sense that the characterization of a class of "dual system"-type systems conceals that any such differentiation takes the part of upper secondary level training to represent the system as a whole (Hannan et al., 1999). Hence, even if correct, the above argument might in fact only be applicable as a partial explanation of the observed cross-national differences, as long as additional assumptions relating the structure of training systems at the upper secondary level to the institutional structure of, and individual behaviour in, other parts of the system are not explicitly introduced. Finally, the extent to which the above argument captures the empirically relevant institutional variation among European Union member countries might itself be questioned, as much of the current institutional literature is developed from a decidedly Northern European perspective, which hardly incorporates Southern European patterns into the systematic argument.

To address the nature and sources of cross-national differences at entering the labour market in a more precise way, the paper provides a multilevel analysis of unemployment and occupational allocation among market entrants in twelve European countries, drawing on the 1992-1997 European Community Labour Force Survey. At the individual level, the main focus of the analyses will be on the role of education for successful labour market entry in different institutional and economic context conditions, while a set of explicit macrolevel measures of the latter are simultaneously included in the analysis. Hence, the relative importance of several alternative explanations for the observed cross-national differences can be assessed empirically, relating different patterns of labour market entry to the structure of qualificational resources of market entrants, institutional differences in the association between education and labour market attainment or varying economic context conditions. By thus explicitly addressing the micro- and macrolevel aspects of institutional effects on the linkage between education and initial labour force outcomes, the paper is able to move well beyond earlier, purely macrolevel accounts (e.g. OECD, 1998; van der Velden/Wolbers, 2000; but cf. also Brauns et al., 1998, 1999). The following section discusses the theoretical background, while Section 3 describes the database and research design applied in the analyses. The empirical results are discussed in two sections, with Section 4 providing some descriptive information and Section 5 containing the multivariate analyses. The results are summarized and evaluated in the concluding section.

2 Education, Labour Market Entry and the Role of Context Factors

2.1 The Role of Education for Successful Entry into the Labour Market

Education is the main resource of young people entering the labour market for securing employment, in competing for adequate employment contracts and to fulfill their occupational aspirations (Müller and Shavit, 1998; Hannan et al., 1999). Education provides both productive capacities to individuals and signals of these to potential employers (Breen et al., 1995; Becker, 1993; Spence, 1973, 1981; Bills, 1988; Hunter and McKenzie Leiper, 1993; Spilerman and Lunde, 1991; Polacheck and Siebert, 1993; Ashton and Sung, 1992) – hence, attained qualifications are a main asset in worker competition for jobs available in the labour market. Of course, education is not the only resource of workers in job search: work experience, past employment history, networks and contacts, or geographical mobility might all be reasonably and convincingly related to individuals' labour market success. In addition, social differentiation according to gender, ethnicity or class background might be expected to operate, both due to their association with the availability of market resources and more fundamental persisting social inequalities. There are, however, at least two reasons which encourage a systematic focus on the role of education in analysing the transition from education to work. First of all, most of these factors like work experience, employment history or professional contacts are zero or at least very limited among those entering the labour force almost by definition. That is, to the extent that labour market allocation depends on factors other than educational qualifications, labour market entrants are among the least competitive job seekers as they necessarily lack these. In contrast, young people entering the labour market have invested in their qualifications, at least in part in order to achieve adequate employment prospects at later life stages. At entering the market, this training process is completed (if only temporarily) as sufficiently satisfactory qualifications have been obtained and individuals aim to extract labour market returns to these. To the extent that labour market processes depend on the qualification attained, early labour force experiences are an immediate consequence of educational decisions taken earlier, and thus intimately linked together and potentially both mutually reinforcing and behaviourally interdependent. To sum up the arguments, assessing early labour force outcomes provides an estimate of short-term returns (in biographical terms) to educational investments which young people can expect on the labour market.

Such labour market returns to educational investments are conceptually most easily understood in the framework of hiring and market allocation models in the spirit of Thurow (1975) or Rosen (1972; cf. also the related sociological literature on labour market matching following Sørensen and Kalleberg, 1981). To simplify, it is assumed in these and related models that employers' readiness to hire an individual into a specific employment position depends on the expected training costs of the individual should it be employed at that position. That is, the smaller the differential between expected current individual productivity and required productivity in the position in question, the larger the likelihood of a hire. A number of aspects of educational qualifications are obviously related to and provide signals about different components of productivity and, in turn, expected training costs. Regularly, the current literature identifies the level and the vocational specificity (or occupational specialization) of qualifications as two main dimensions of relevance (cf. the contributions in Shavit and Müller, 1998; Braun and Müller, 1998; Brauns and Steinmann, 1999). Both the level of qualifications as an index of general ability and the vocational specialization of training received as an indicator of transferable occupationally-specific skills can be expected to reduce incurred training costs, and thus, to increase the probability of access to employment, with the effect being mostly confined to the sector of specialization in the latter case. But the discussion of different types of national institutional systems of training provision suggests this list is not of institutional variation relevant to cross-national research (cf. the review in Hannan et al., 1999). More specifically, in those European countries regularly credited the most successful ones in terms of youth integration into the labour force, it is fairly common to provide vocational training in an environment combining school- and work-based training, notably in the form of apprenticeship systems. This type of training adds a third dimension of importance to the picture which might be phrased as provision of work experience and direct employer involvement in training provision (Hannan et al., 1999). With respect to expected training costs, such training provides at least two additional advantages to market entrants: work experience and firm-specific training, which can both be expected to reduce the expected productivity differential, though the latter should apply to continued employment with the training firm only. In sum, these arguments amount to the following three hypotheses on the relationship between educational qualifications and unemployment risks of market entrants, which is for simplicity conceptualized as the probability of non-hiring: (HYP1) *Unemployment is negatively associated with the level of education*; (HYP2) at a given level of education, *unemployment risks are lowered by attaining qualifications which provide vocational specialization*; and (HYP3) at a given level of education, *unemployment among market entrants is lowered by completing an apprenticeship or training in a similar type of dual system arrangement*.

The reasoning easily extends to expectations about the relationship between qualifications and occupational attainment. Following Thurow's model again, one might imagine a ranking of available jobs according to general attractivity, with remuneration and required productivity being relatively closely linked. If individuals strive to attain highly rewarded employment positions, they will accept employment at the most attractive employment position available. As the availability of positions is assumed to depend on expected training costs, the choice set is increasingly restricted at lower qualification levels. From this it follows that (HYP4) *with respect to occupational allocation along the reward hierarchy, it should only be the level of education which is of importance, rather than vocational specificity of qualifications in itself.* The vocational specialization of qualifications would, in contrast, be expected to affect the probability of employment within the sector of specialization, as training costs are by definition only reduced in that specific sector. Given data limitations with respect to the level of detail in the measurement of qualifications, however, it is not possible to pursue this last issue in the empirical analyses to follow.

2.2 The Importance of Institutional Contexts

While the above reasoning attempted to provide a brief outline of the general mechanisms linking education and market entrants' labour force outcomes, a main strength of comparative research is the ability to address the impact of fundamentally varying context conditions between countries on that nexus. Of primary relevance are the institutional structure of education and training systems on the one hand and labour markets on the other, where crucial parameters affecting individual decisions and their aggregate outcomes in the transition process from education to work are set. European countries, which are considered here, differ markedly in both respects, so that wide cross-national differences in transition outcomes might be expected.

The institutional structure of education and training systems is at the center of many explanatory frameworks addressing cross-national variation in the nature of early labour market careers, although specific arguments vary widely (cf. Hannan et al., 1999; Müller and Shavit, 1998, 2000; Allmendinger, 1989; Kerckhoff, 1995, forthcoming). It is certainly true that institutional arrangements in education systems are of fundamental importance to transition outcomes as they channel, constrain or enable sufficient individual acquisition of qualifications. If one views the nature of qualifications individuals have achieved by entering the labour market as the outcome of a basically rational decision on the part of young people and their families (Becker, 1993; Breen and Goldthorpe, 1997; Jonsson, 1999; Borghans and Groot, 1999), then it is self-evident that the institutional structure of training systems can be seen as defining the educational choice set and the properties of the discrete qualificational alternatives provided, which might be assessed in terms of expected costs and benefits. Phrased in this simple framework, institutional variation in education and training systems might consist of both differences in the choice sets offered and the features of specific qualifications. To the extent that such variation occurs, one would expect to observe variation in the educational distribution of market entrants, which is indeed widely documented for European countries (e.g. Müller and Wolbers, 1999). A main result of these studies is to point out wide cross-national variation in the availability of apprenticeships or other dual systems of training. In countries like Germany, Austria or Denmark such training appears to provide an attractive initial qualification to young people, while such training environments have declined - for numerous reasons (e.g. Marsden and Ryan, 1995) - in importance in the Netherlands or, much earlier, Britain, and are only recently returning to some degree in France or through the Modern Apprenticeship Programme in the United Kingdom. On the other hand, European countries differ markedly in the extent to which youth cohorts attain upper secondary or tertiary level qualifications, with e.g. Austria and Italy exhibiting very low and hardly increasing proportions of tertiary level leavers or the proportions of young people leaving the educational system with essentially compulsory schooling continuing to be relatively high in Southern Europe, but also in Britain (OECD 1997; Müller and Wolbers, 1999; Müller et al., 1997). Given that different educational systems thus provide market entrants with very different sets of qualificational resources, cross-national differences in initial labour market outcomes and the nature of the transition process itself are to be expected. More specifically, the total effects of education and training systems on the transition from school-to-work are restricted to compositional differences in market entrants' stock of qualifications at leaving the training system. Consequently, it is hypothesized that (HYP5) *cross-national differences in early* *labour market outcomes arise from cross-national variation in training systems' effectiveness in providing young people with qualificational resources valued in the labour market.* Those countries especially successful in avoiding high rates of youth unemployment and high rates of inadequate employment among market entrants to a larger extent enable young people to acquire the necessary qualifications for such sucessful market entry. That is, conforming to the microlevel hypotheses set out above, it is expected that those educational systems providing advantageous – i.e., tertiary level, vocationally specific or apprenticeship – qualifications to a larger share of a cohort of market entrants lead to more favourable patterns of youth integration into the market.

European countries also differ, however, in the institutional structure of labour markets young people have to face at market entry, and this might be equally expected to impact on the nature of education-to-work transitions in the different countries. Of course, there are a multitude of angles from which the issue of labour market institutions might be addressed, focusing e.g. on the nature of formal employment regulation, union bargaining power and the nature of wage bargaining systems, the nature of labour market segmentation or the extent of active labour market programmes aimed at integrating young people into the work force, all of which may easily be related to expectations about transition outcomes (e.g. van der Velden and Wolbers, 2000b). Attempting to identify the main institutional features of relevance from a small sample of countries is, however, plagued by the fact of institutional interdependencies in the above and other characteristics of labour markets, implying both a theoretical indeterminacy of results and patterns of severe multicollinearity in the empirical data. As the focus of the paper is on the role of education and educational systems, the potential additional explanatory power of institutional arrangements in labour markets is assessed in more explorative ways in the following. Building on earlier empirical analyses (Gangl, 2000a), three country clusters are distinguished in the set of twelve EU member countries, representing both distinct configurations of institutional arrangements and empirical patterns of labour market entry. More specifically, I distinguish (a) Austria, Denmark, Germany and the Netherlands as the group of Northern European countries where strong occupational labour markets are regularly claimed to operate (Müller and Shavit, 1998; Eyraud et al., 1990; Marsden, 1990), (b) the Southern European countries, including Greece, Italy, and Portugal, regularly claimed to exhibit rigid labour market context, both in terms of formal employment protection and career mobility patterns (Grubb and Wells, 1993; OECD 1999; Bernardi et al., 1999; Jobert, 1997), while treating (c) the residual set of countries, including Britain, Ireland, France, Belgium, but also Spain, as a final group of European countries, which (to varying degrees) lack either institutional feature of labour markets. Following standard practice in the literature, the labels of OLM systems, Southern European systems, and ILM systems will be used as shorthands for these groups, respectively.[1] In more theoretical terms, this distinction alludes to different institutional solutions (even if implicit) of reducing the productivity differential for market entrants, which may heuristically be contrasted along the two axes of skill vs. wage/contract flexibility in labour markets. One strategy to increase young people's competitiveness on the labour market is early skill specialization aimed at improving initial relative productivity of market entrants as compared to that of adult workers. This strategy is chosen in the (ideal-typical) occupationalized systems of the first group of countries, which combine strong vocationally-oriented training systems with both fairly regulated and occupational labour markets (cf. the lower right hand panel in Table 1). Alternatively, youth labour market integration might be achieved by flexibilizing labour usage and employment contracts in order to allow for a closer relation between market entrants' current productivity and job rewards in terms of pay and other contract conditions. This ideal-typical second strategy is operated in the other North European systems in the upper left hand cell of Table 1, where labour market regulation is weak in general (as in the UK or Ireland) or deliberately flexibilized by introducing wage subsidies, work experience programmes and flexible forms of contracts among young people (as in France, Belgium or Spain). A second component of youth labour market integration in this context might consist of disproportionally allocating young people into the secondary sector work force and subsequent promotion from this pool of workers afterwards (Marsden, 1990). In some sense, either attempt of fostering labour market integration of young people appears to be absent in the remaining set of Southern European countries assembled in the lower left hand cell of Table 1. In consequence, one might expect that (HYP6) *unemployment risks among market entrants should be markedly more pronounced in the latter systems as compared to both OLM and ILM systems*, while (HYP7) *the main contrast between OLM and Southern systems as compared to ILM systems should be a more favourable occupational allocation at market entry.*

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[1] I explicitly note the potentially misleading use of these labels as a singular feature is used to characterize types of systems. The intended use here is rather one of relatively similar institutional arrangements shaping transition processes, consisting of fairly distinct and internally relatively coherent combinations of institutional features in labour markets. Such institutional interdependencies might also include relations between the structure of training systems and the structure of labour markets (e.g. Maurice and Sellier, 1986; Marsden,

Table 1 Types of Institutional Arrangements in Labour Markets

Wage/Contract Flexibility	Skill Flexibility			
	high			low
high	United Kingdom, Ireland			-
		Spain, France, Belgium		
			the Netherlands, Denmark	
low		Greece, Italy, Portugal		Austria, Germany

Source: based on empirical results in Gangl (2000a)

1990; Müller and Shavit, 1998; Hannan et al., 1999), which render the analytical separation between the two somewhat less unequivocal than discussed above.

2.3 Economic Context and Labour Market Entry

Labour markets are not continuously in stable equilibrium, but rather constantly adapting and adjusting to various sources of change. These are both short-term forces like labour market and employment reactions to business-cycle fluctuations in product markets (e.g. Blossfeld, 1986; Storer, 1994; Bowlus, 1995), but also more long-term changes in the skill structure of employment or the qualificational structure of labour supply (Müller and Wolbers, 1999; Brauns, 1998; Müller et al., 1997; Dronkers, 1999; Penn et al., 1994; Gregg and Manning, 1997; Evans, 1999; Ashton et al., 1990), which have the labour market must become accustomed by to, and change accordingly, over time. Hence, cross-national variation in labour market outcomes always reflects effects of institutional differences between countries as well as country differences with respect to general economic conditions or other national labour market factors like a particular industrial or occupational structure. In order to properly identify genuine institutional effects in empirical analysis, one has to allow for any such effects of the state of, and changing economic contexts in, the labour market. It is easily imagined that general economic conditions affect market entrants' labour force outcomes, so that cross-national variation in transition outcomes reflect varying aggregate labour market conditions. I will not proceed to develop any stringent tests of economic context effects as they are addressed more specifically in a companion paper to the current one (Gangl, 2000b). Rather it should be sufficient to note some general expectations about these effects without presenting more elaborate theoretical justifications at this point. In general, the hypothesis is that young people's unemployment risks will be negatively related to aggregate labour market conditions as measured by unemployment rates in the total labour force and positively to increasing youth cohort sizes as captured by the youth-adult-ratio in the labour force. Occupational allocation, in contrast, is expected to depend mainly on changes in the skill balance in the market, with educational expansion leading to decreasing occupational outcomes while increasing professionalization of the work force is supposed to imply rising levels of occupational allocation. In the current context, it is, however, mainly relevant that the database used in the empirical analyses allows usto introduce such variables as additional controls, potentially enabling us to arrive at clearer estimates of genuine institutional effects on transition outcomes in various European countries. I now turn to describe the data in more detail.

3 Data and Methodology

Following the above introduction, this paper will present a set of comparative analyses of labour market entry in the countries of the European Union in the mid-1990s. In the analyses, data for twelve European countries is used, drawing on the 1992-1997 European Community Labour Force Surveys.[2]

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[2] This data has kindly been provided by EUROSTAT, the Statistical Office of the European Union. Of course, EUROSTAT is neither responsible for the uses made of the data nor the views held by the author. The twelve countries chosen for analyses are Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain and the United Kingdom. Luxembourg is excluded for reasons of small sample sizes giving unreliable results, while Finland and Sweden had to be excluded as occupational information is only provided in 1997. For the chosen set of countries, single annual observations were excluded due to breaks in (part of) the time series or other unreliabilities, mostly related to substantial changes in the coverage

This database provides standardised, cross-sectional information on labour force participation, unemployment and various aspects of employment compiled from EU member states' national Labour Force Surveys.[3] The surveys themselves consist of large-scale national samples which are repeated at least annually, thus providing a unique database of repeated cross-sectional surveys of labour market behaviour and employment issues in EU countries (cf. EUROSTAT 1992, 1996, for extensive details on the database).

For the analyses, a subsample of market entrants is drawn from the full ECLFS database: market entrants are defined as those individuals as who left formal education and training no longer than five years ago. As individual time of leaving education is unavailable in the database, the timing of market entry is proxied by typical graduation ages for the different levels and types of education as published by the OECD (1997). At the individual level, gender, potential labour force experience and level and type of education is observed. Potential labour force experience is measured in years since the OECD's age of typical graduation for the highest level and type of education achieved. Highest level and type of education achieved is measured in terms of an augmented ISCED classification (UNESCO 1975) which distinguishes four levels of qualifications as present in the standard ISCED scheme, but supplementing this by differentiating three types of qualifications at the upper secondary level. More specifically, the qualification levels distinguished are: ISCED levels 0-2 or having attained no more than lower secondary qualifications, ISCED level 3 or having attained upper secondary education, ISCED level 5 or having attained post-secondary or lower tertiary qualifications, and ISCED levels 6-7 or having attained full university or Ph.D. degrees. In addition, the level of upper secondary education (ISCED 3) is further subdivided according to the nature of qualifications into upper secondary general academic education, upper secondary school-based vocational training, and apprenticeship training, yielding six educational groups in total.[4] All variables are measured as of an individually-specific reference week, regularly scheduled in spring each year.

Based on the ECLFS dataset, unemployment risks and occupational attainment are analyzed as two main aspects of early labour market attainment (unfortunately, neither earnings, wages nor income is available from the ECLFS). With respect to employment and unemployment, the ECLFS database follows standard international ILO definitions (cf. ILO, 1990a), while occupations are classified according to the ISCO-88 COM scheme at the 3-digit level (cf. ILO 1990b, EUROSTAT 1992, 1996). In the current paper, a small modification to the ILO concept of employment is applied: in an analysis of early labour market experiences and the transition from education to work, it appears unwarranted to include all individuals having worked for payment or profit without paying attention to any current participation in education and training, which might actually represent their primary status. Deviating from standard ILO procedures, all individuals participating in any kind of initial formal education and

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of current training activities or the coding of educational qualifications (e.g. France, Belgium or Ireland 1992). Data on Austria is only available since 1995, when that country joined the European Union.

[3] Standardisation of information closely adheres to established international standards as laid down in ILO conventions (cf. ILO 1990; EUROSTAT 1992, 1996).

[4] Additional individual-level information is present in the database, yet unavailable for scientific research as current data protection policies restrict access to nine-dimensional multivariate tables.

training are therefore excluded from the labour force.[5] After all, market entrants are thus defined as individuals having (intermittently, if only) completed their educational careers. For this group, labour market outcomes are investigated in terms of unemployment risks in early careers and initial occupational allocation, the latter being measured in terms of occupational status, the incidence of lower-skilled employment and the attainment of professional employment positions. Below, Overview 1 provides more specific details on the measurement of each concept.

	Overview 1
Employment & Labour Force	Modified ILO international definition of employment / labour market participation (cf. ILO 1990a): participation in initial training considered as primary status
Unemployment	ILO international definition of unemployment (cf. ILO 1990a)
Occupational Status	ISEI international socio-economic index score (cf. Ganzeboom et al., 1992; 1996) matched at the level of 3-digit ISCO88-COM occupational detail
Lower-skilled Employment	Un-/semi-skilled or lower-level occupation according to ISCO classification (cf. ILO 1990b): ISCO88-COM, 3-digit occupational groups 422, 512, 520, 522, 611-615, 822-830, 832-933 (e.g. lower-level salesworkers, restaurant workers, machine operators, drivers, elementary services occupations, agricultural and production labourers)
Professional Employment	Professional occupation according to ISCO classification (cf. ILO 1990b): ISCO88-COM, 2-digit occupational groups 11, 12, 21-33 (e.g. teaching and scientific professionals, managers, architects, health professionals, technicians)

In the current analyses, these individual-level measures are complemented by a set of context factor measures, which are conceived of as including both *institutional variables* and *labour market context factors*. As discussed earlier, the latter set of variables is basically introduced as additional contextual controls which will not be discussed explicitly in what follows below (but see Gangl, 2000b, which even uses a full decade of information from the same database). The four macrolevel measures included in the analyses are (a) the demographic size of youth cohorts in terms of the youth-adult ratio in the labour force, i.e. the ratio of market entrants to experienced workers in the total labour force aged 15-59, following the sample specifications detailed above; (b) the aggregate unemployment rate in the total labour force aged 15-59, indexing aggregate economic conditions and business cycle fluctuations, (c) the extent of educational expansion as captured by the proportion of tertiary-level – i.e. ISCED 5-7 – qualified individuals in the total labour force, and (d) the extent of labour market professionalization as measured by the proportion of professional employment positions (as defined in

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[5] This rather open and imprecise formulation is meant to include participation in those regulated forms of training which might be considered in some way as 'initial', while excluding those types of of part-time education which serve to enhance individual qualifications while already working. Attending university, upper secondary schools or dual-system types of training would be examples of the former; attending evening schools or firm-based training courses examples for the latter. Full details of coding are available from the author on request.

Overview 1) among total employment. All measures are based on estimates from the ECLFS database for 66 country level observations, i.e. 12 sample countries times 3-6 annual observations. The analyses themselves utilize both within-country mean-centered values to characterize within-country changes in economic contexts, and centered mean values to capture stable between-country differences in the period of observation. As introduced in the theoretical section above, the variable characterizing institutional labour market contexts amounts to a simple differentiation between the three country clusters discussed earlier. The impact of education and training institutions on transition outcomes will implicitly be controlled in the statistical analyses by conditioning labour market outcomes on types of education attained.

In the following, the paper will first present descriptive evidence on both cross-national variation in early labour market outcomes and the role of educational qualifications for unemployment risks at entering the labour market and initial occupational allocation in the twelve EU countries under study. Early labour market outcomes will then be assessed from comparative micro-macro models, controlling simultaneously for individual resources, institutional and economic context factors, and unobserved heterogeneity between countries and qualifications. This modelling strategy follows in a straightforward manner from the repeated cross-sectional research design of the database used (cf. Blalock, 1984; Judge et al., 1985; Greene, 1997; DiPrete/Grusky 1990a, 1990b) and applies multilevel or generalized linear mixed model estimation in the analyses (cf. Bryk and Raudenbush, 1992; Longford 1993, 1995; Goldstein, 1995). All models control for fixed effects of the set of covariates introduced above, but include the estimation of two normally distributed random effects, one for the country level and a second for the more than 60 national qualifications distinguished in order to account for unmeasured heterogeneity between countries and types of qualifications (cf. van der Velden and Wolbers, 2000, for a similar application). The calculation of standard errors and hypothesis tests is adjusted for the clustering of observations by country and type of education within country. The dichotomous dependent variables of unemployment, lower-skilled employment and professional employment are modelled by specifying a binomial distribution and a logit link function, occupational status is specified to follow a normal distribution with a logarithmic link function.

4 Education and Early Labour Market Outcomes across Europe

As a first step in the empirical analyses, some descriptive evidence on the relationship between market entrants' educational background and their initial labour market outcomes will be briefly presented. The following Figures 1-4 provide simple cross-tabulations between education and the four outcome indicators on unemployment and occupational allocation for each of the twelve countries in the sample, averaged across the period 1992-1997. Evidently, it is impossible to discuss all aspects of these results in detail, so an attempt will be made to emphasize some broad tendencies, while the multivariate analyses in the following section aim to provide a much more condensed account of the systematic components shaping labour market entry outcomes in Europe.

Turning to market entrants' unemployment risks first, the results clearly show substantial variation, both between countries and between types of education, but also between equivalent types of education across countries. Unemployment risks are lowest, in general, in those four countries operating large scale occupationally-specific training systems: unemployment rates range from 7% in Austria to about 10% in the Netherlands, Denmark and Germany. In Portugal, Belgium, the United Kingdom and Ireland, unemployment rates are between 13% and 21%, while they amount to about 30% in France and Greece, 37% in Spain, and even 42% in Italy. Of course, there is equally wide variation between types of education: university leavers in Austria face an unemployment risk of 5% only, while half of all entrants from upper secondary general or lower tertiary education in Italy or lower secondary education in France are unemployed. In general, unemployment rates decline with increasing levels of qualifications. In France, for example, unemployment rates at the upper secondary level are about half the figure for the lowest qualified, and even reduced to about one third for leavers from tertiary level education. Similar relations hold in countries like the United Kingdom, Ireland, Denmark and the Netherlands. Moreover, apprenticeships evidently perform very favourably, both compared to school-based education at the same level of training and across qualificational levels. In all countries operating any such training, unemployment rates for apprentices tend towards those of tertiary level leavers and are certainly far from those of leavers with compulsory education only. But there is additional variation between the same type of education across countries: notably, Southern European countries are distinct in the sense that there are hardly any benefits attached to achieving higher qualification levels in terms of unemployment. Rather, unemployment rates in Southern Europe are often even higher at the upper secondary level as compared to those of the lowest qualified leavers, and not much reduced for tertiary level graduates either.

Occupational allocation, in turn, is addressed by the three indicators of occupational status attainment, the probability of lower-skilled employment and the probability of employment in the professions and semi-professions, respectively. In terms of occupational status attainment there is little evidence of cross-national variation, neither in mean status score levels nor in the relation between specific types of education and status level in particular countries. Rather, occupational status increases with the level of education as well as with the academic orientation of the completed track at the upper secondary level in all European countries in fairly similar ways. In part, this result reflects the construction of the scale itself, which is specifically designed to average out cross-national variation in status evaluations for particular occupations (cf. details in Ganzeboom et al., 1992, 1996). Still, it is remarkable that there is little variation in the relation between types of education and status outcomes between countries. There is much more evidence of cross-national variation in occupational allocation once the discrete measures are considered.

Figure 1 Unemployment Rate by Country and Education

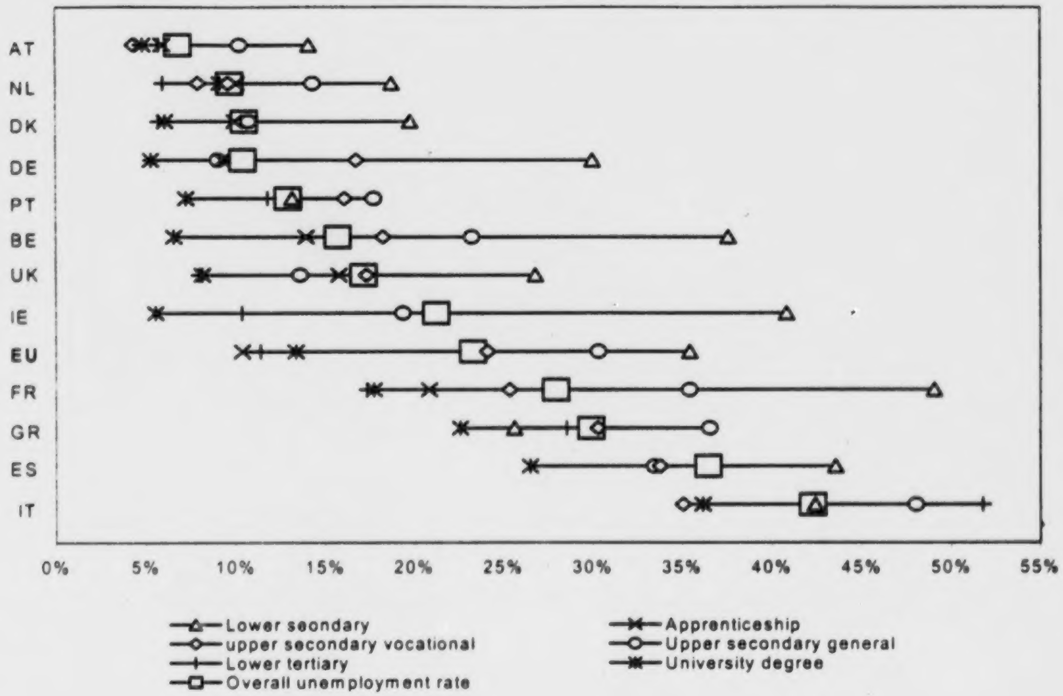
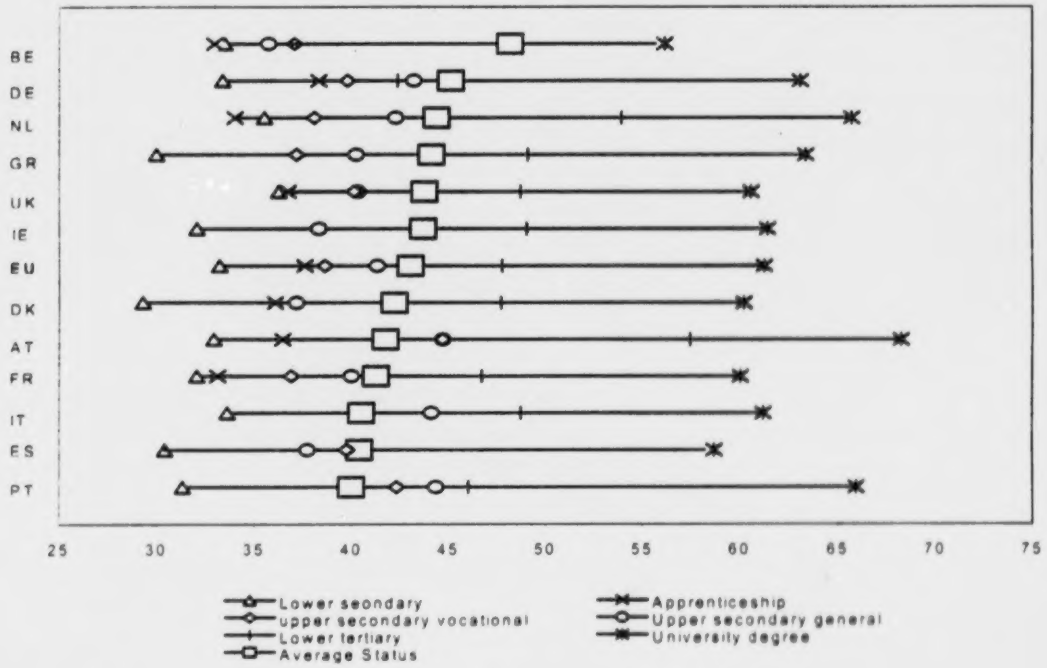


Figure 2 Average Occupational Status (ISEI scores) by Country and Education



Sources: European Community Labour Force Survey 1992-1997

Figure 3 Probability of Lower-Skilled Employment by Country and Education

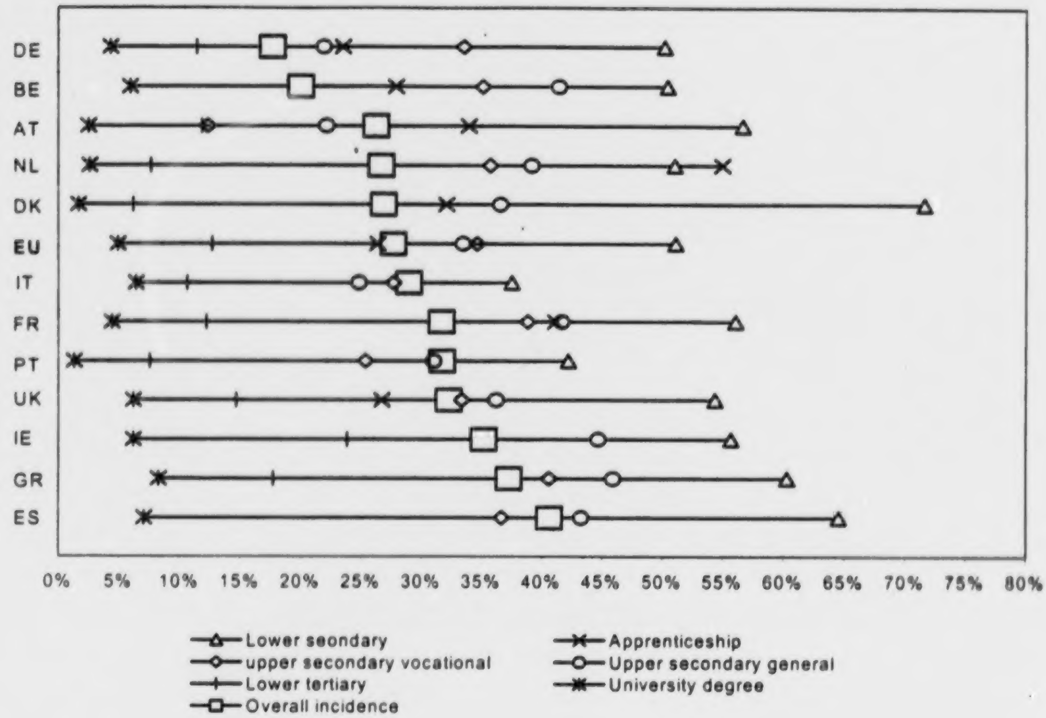
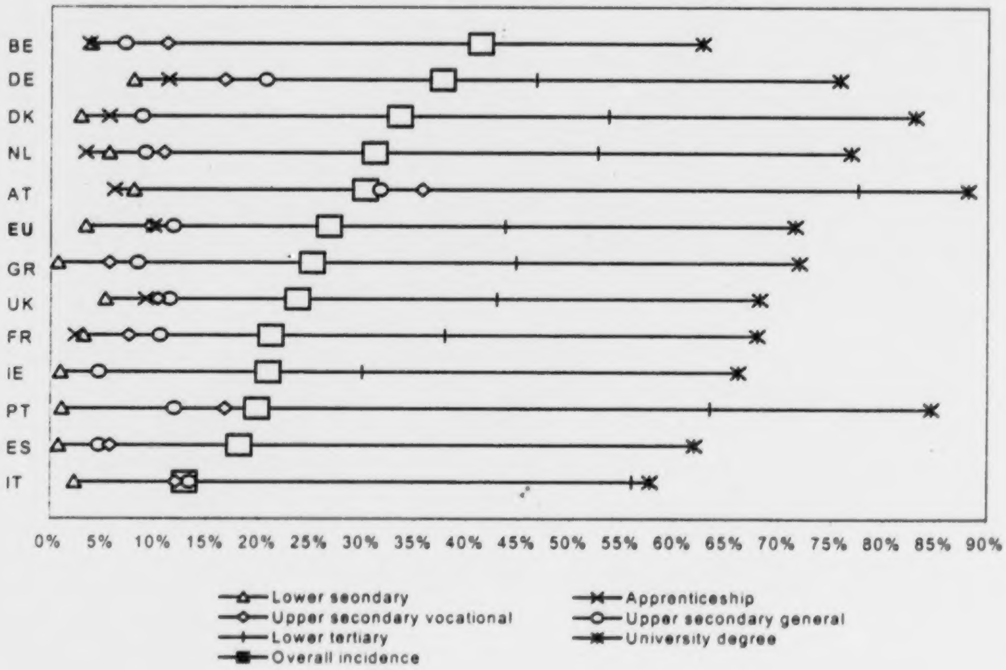


Figure 4 Probability of Professional Employment by Country and Education



Sources: European Community Labour Force Survey 1992-1997

Turning to the lower end of occupational outcomes first, the proportion of market entrants in lower-skilled employment – as defined above – varies substantially across countries and educational groups. The overall proportion of market entrants in such lower-level occupations is lowest in Germany (18%), Belgium (20%), Austria, Denmark and the Netherlands (27%), ranging up to 37% in Greece and 41% in Spain. Of course, it is mostly leavers with compulsory education only who attain employment in these occupations, with the incidence rates for this group being at 50%-60% in most countries, but ranging between some 40% in Italy and Portugal and up to 70% in Denmark. In turn, leavers from both levels of tertiary education are hardly found in lower-level jobs. The picture is less clear-cut at the upper secondary level, however. In general, the incidence rates are at an intermediate level, but there is wide cross-national variation in terms of whether differentiation between different types of training at the upper secondary level exists at all, and if so, which qualifications provide most favourable conditions. In most countries, it seems that school-based vocational education holds some advantages over the general academic tracks, although Germany is a counter example in that respect. Similarly, the relative status of apprenticeship training is not unequivocal. While in most countries apprentices perform equally well or even better than leavers from other upper secondary tracks, this is certainly not the case in Austria or the Netherlands, where apprentices are to a significant degree allocated to lower-level positions.

As a final indicator, I will take a look at the opposite pole of occupational hierarchies, the level of professional employment positions (cf. Figure 4). As for lower-level employment, there is clear evidence of substantial cross-national variation in this discrete measure of occupational outcomes. The proportion of market entrants in these upper-level forms of employment ranges from about 40% in Belgium and Germany, about one third in Denmark and the Netherlands down to some 20% in Ireland, Portugal and Spain and to as low as 13% in Italy. Evidently, the likelihood of starting one's career in such positions is strongly related to a tertiary level educational background. Except for upper secondary leavers in Austria (and maybe Germany), the probability of entering these occupations is virtually negligible. This probability markedly increases for leavers from lower tertiary education and improves even further for university graduates. Still, there is substantial variation in these figures between countries. The probability of professional employment among lower tertiary educated leavers is mostly between 45% and 55%, but ranges between 30% in Ireland and 38% in France up to 63% in Portugal and 78% in Austria.[6] A similar picture applies at the level of university graduates: their probability of entering professional employment is at about two thirds to 70%, with Italy (58%) and Spain (63%) deviating negatively and Austria (88%), the Netherlands (85%) and Denmark (83%) providing particularly good prospects.

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[6] In part this might reflect a relatively heterogeneous coding of national qualifications to this educational level, including post-secondary tracks for some countries and introducing questionable differentiation between tertiary tracks for others (coding details in Eurostat, 1996).

5 Micro-Macro Models of Labour Market Entry

Having presented basic descriptive evidence on the relationship between education and early labour market outcomes, the analyses now turn to the multivariate modelling. Unemployment risks are addressed first, followed by a discussion of occupational attainment in terms of the different indicators chosen. A concluding section summarizes the implications of the estimated models for explaining differences in labour market entry patterns between institutional contexts.

5.1 Unemployment Risks at Entering the Labour Market

What explains unemployment risks at entering the labour market in Europe in the mid-1990s? Details on the estimated multilevel models are provided in Table 2, with estimated models successively including additional variables to extract the systematic components of country differences and variation between qualifications. The estimated country level variance component of the null model (Model 0) yields a substantial baseline estimate on country differences in unemployment risks. Model 1, which includes random effects for country and type of education, shows that variation between types of education is large, while variation between countries is somewhat reduced, indicating that part of the cross-national difference is related to country differences in the distribution of qualifications among school leavers. Both variance components can be substantially reduced by subsequent models, introducing various systematic components into the estimation process. Taking account of the six-category calssification of level and type of qualifications in Model 2 already accounts for about two thirds of the total variation of unemployment risks between types of education (σ^2=.128 vs. σ^2=.320). The parameter estimates show that unemployment risks are lowest for tertiary qualifications, and lower for apprentices than for leavers from other tracks at the lower or upper secondary level; a more specific discussion of these and other findings follows below where discrete change effects estimated from the models are discussed. Besides the impact of education, young women tend to face higher risks of unemployment, as do most recent entrants to the labour market. Models 3 and 4 then begin to include country-level factors into the model. According to Model 3, including the distinction of three European institutional systems, reduces the country-level variation present in Model 2 by about half (σ^2=.241 vs. σ^2=.457). Leavers in OLM systems, in general, face lowest unemployment risk in Europe, while unemployment in Southern European countries is well above EU average. This conclusion is further qualified by Model 4, which includes economic context factors at the country level. The main relevant factor is the countries' aggregate unemployment rate which is strongly positively related to market entrants' unemployment risks. The findings for the institutional contexts remain qualitatively unchanged after introducing this set of controls; the changing magnitudes indicate that part of the advantageous performance of OLM systems in the mid-1990s has been due to relatively favourable economic conditions. Additional country variation, apart from the factors controlled for, appears to be small (σ^2=.04) as compared to the initial estimates (σ^2=.52). As an addition, Model 5 establishes that cyclical movements of the aggregate unemployment rate are also the main factors behind short-term changes in market entrants' unemployment within each country.

Table 2 **Unemployment Risks at Labour Market Entry, Multilevel Logit Estimation**

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut. systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	-1.508**	-1.566**	-1.535**	-1.507**	-1.460**	-1.461**	-1.467**
Women			0.045**	0.045**	0.045**	0.046**	0.046**
1st/2nd year leaver			0.193**	0.193**	0.193**	0.196**	0.196**
Education [Ref: lower secondary]							
Apprenticeships			-0.135	-0.114	-0.092	-0.092	-0.071
Upper secondary vocational			0.067	0.064	0.043	0.048	0.025
Upper secondary general			0.257**	0.250**	0.247**	0.244**	0.240**
Lower tertiary			-0.319**	-0.323*	-0.317**	-0.317**	-0.299**
University degree			-0.554**	-0.558**	-0.562**	-0.565**	-0.516**
Institutional Systems [Ref: ILM]							
OLM Systems				-0.709**	-0.427**	-0.430**	-0.482**
OLM x Upper secondary general							-0.085
OLM x Upper secondary vocational							-0.071
OLM x Apprenticeships							0.055
OLM x Lower tertiary							-0.291**
OLM x University degree							0.057
Southern Systems				0.489**	0.656**	0.660**	0.724**
South x Upper secondary general							0.075
South x Upper secondary vocational							-0.027
South x Lower tertiary							0.495**
South x University degree							0.117
Between-Country Context							
Unemployment Rate					0.152**	0.152**	0.150**
Youth-Adult Ratio					-0.062	-0.063	-0.063
% Tertiary Level Qualifications					-0.002	-0.002	-0.001
% Professional Employment					0.040	0.040	0.041
Within-Country Changes							
Business Cycle						0.102**	0.102**
Youth-Adult Ratio						0.004	0.004
Educational Expansion						0.019	0.020
Occupational Upgrading						0.012	0.013
Variance Components							
$\sigma^2_{Education}$	/	0.320	0.128	0.127	0.130	0.124	0.061
$\sigma^2_{Country}$	0.519	0.438	0.457	0.241	0.035	0.036	0.043
Deviance	79,232	76,445	76,023	76,023	76,022	75,840	75,842
N	78,955	78,955	78,955	78,955	78,955	78,955	78,955
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p<.05 and *p<.10; all variables are entered effect-coded and mean-centered; (n.e.) – country-level random effect not estimated due to convergence problems.

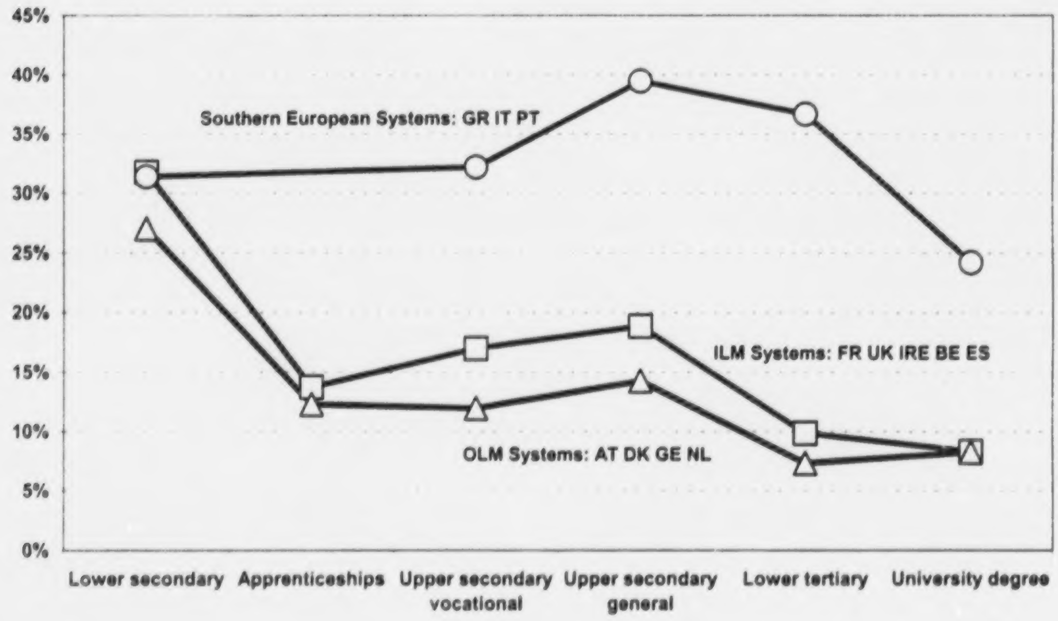
Source: European Community Labour Force Survey 1992-1997

Table 3 **Unemployment Risks at Labour Market Entry, Discrete Change Effects**

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	0.202	0.300	0.130	0.191	0.227	0.146	0.121
Institutional Systems							
ILM Systems	-0.014	+0.018	+0.007	-0.021	-0.038	-0.047	-0.038
OLM Systems	-0.046	-0.030	-0.007	-0.071	-0.084	-0.073	-0.038
Southern Europe	+0.115	+0.014	N/A	+0.131	+0.168	+0.221	+0.121
Between-Country Economic Factors							
Aggregate Unemployment Rate	+0.024	+0.032	+0.018	+0.024	+0.027	+0.020	+0.017
Youth-Adult Ratio	-0.010	-0.013	-0.007	-0.009	-0.011	-0.008	-0.006
% Tertiary Level Qualifications	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000
% Professional Employment	+0.007	+0.009	+0.005	+0.006	+0.007	+0.005	+0.004
Within-Country Economic Trends							
Business Cycle	+0.016	+0.022	+0.012	+0.016	+0.018	+0.013	+0.011
Youth-Adult Ratio	+0.001	+0.001	+0.000	+0.001	+0.001	+0.000	+0.000
Educational Expansion	+0.003	+0.004	+0.002	+0.003	+0.003	+0.002	+0.002
Occupational Upgrading	+0.002	+0.003	+0.001	+0.002	+0.002	+0.002	+0.001

Notes: Predicted probabilities based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 1 for further details.

Figure 5 **Predicted Unemployment Probabilities by Institutional Contexts and Education**



Notes: Predicted probabilities based on final model at the means of covariates.

Model 6, finally, includes interaction effects between qualifications and institutional systems, allowing the role of education to vary between contexts. As a result, variation between types of education is reduced to σ^2=.06,[7] mostly due to a relatively better standing of leavers from lower tertiary education and relatively larger unemployment risks of the lowest qualified in OLM contexts, while the reverse pattern holds for Southern Europe.[8]

Substantive interpretation of complex and non-linear models like the ones estimated is much facilitated by means of providing predicted probabilities for a core set of features of interest, allowing us to add a more quantitative interpretation of estimated effects to the qualitative one already provided above. Table 3 provides these predictions both at the aggregate level and by specific type of education for all context-level variables, each prediction calculated at the means of all other covariates. Figure 1 complements the presentation by providing a graphical display of educational effects in each of the three institutional systems. According to these results, leavers from tertiary education and apprenticeship training face the most favourable prospects at entering the labour market, with predicted probabilities of unemployment between .121 and .146, or equivalently, .06 to .08 below the average prediction. The probability of unemployment for leavers from school-based upper second education is around the overall average of .20, with a relative advantage of .03 to vocationally qualified leavers. It is the least qualified who, finally, face the highest unemployment probabilities of about .10 above the average figure, or .300 in total. In addition, these relations differ markedly between institutional contexts, implying a probability differential of .16 between unemployment risks in OLM systems versus Southern European systems (-.046 to +.115) solely due to systemic differences in the evaluation of otherwise identical qualifications. More specifically, unemployment risks for all but leavers with compulsory education only are, at otherwise identical economic context, at least .10 higher in Southern Europe, leading to the well-known bell-shaped rather than negative relationship between education and unemployment (OECD 1996, 1997). In addition, unemployment risks in OLM systems are also substantially lower than those for the equivalent qualificational groups in ILM contexts, notably among the lowest qualified and at the level of upper secondary and lower tertiary qualifications. The predictions finally also stress the crucial role of aggregate labour market conditions for market entrants' unemployment risks. Comparing the unit effect both between and within countries emphasizes that aggregate labour market conditions disproportionally affect unemployment risks of market entrants: the estimates amount to predicting an overall increase in market entrants' unemployment of 2.4% associated with a 1% increase in a countries' average aggregate unemployment rate over the 1992-1997 period, and a 1.6% increase following a 1% deterioration of the aggregate unemployment rate within any country. The apparent relation between the magnitude of estimated effects and the level of unemployment risks for any educational group is, of course, a consequence of the non-linear model specification adopted. Both the substantive issue of interactions between trends and type of qualification as well as the question of interactions between institutional systems and trend factors are not pursued any further here (but cf. Gangl, 2000b).

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[7] The variance estimate for type of education in the null model (without nesting within country) is σ^2=.72.

[8] In addition to the estimation results provided, separate models for the more recent and more experienced market entrants have been fitted for all dependent variables in order to explore the extent to which core results might be systematically more pronounced among the more recent entrants. There are, however, hardly any indications that pooling the first five years in the labour market affects the results in any meaningful way.

5.2 Occupational Allocation of Market Entrants

Turning from unemployment to employment outcomes, the analyses now address the occupational allocation of market entrants across EU countries. In doing so, the paper relies on a multiple rather than singular characterization of occupational outcomes, drawing both on a continuously scaled measure of occupational status and two discrete measures for both the most and least advantageous occupations, respectively. The presentation of results will, in general, follow the format established in the case of unemployment. In more substantive terms, the most general measure of occupational status will be discussed first, while results on both the incidence on lower-skilled employment, and the attainment of professional employment positions follow subsequently.

5.2.1 Status Attainment

Occupational status attainment is measured according to the ISEI scale here (cf. Ganzeboom et al., 1992, 1996) and results from the multilevel regressions of these scores are presented in Table 4, with predicted status scores and discrete change effects again being given in Table 5 and Figure 2. In general, variation between countries in terms of ISEI scores is small (σ^2=.003 on the log-normal scale), and mostly related to cross-national differences in the distribution of qualifications among market entrants rather than any country-level context factor controlled for in the regression. From the set of between-country context factors, only the level of tertiary level graduates in the labour force is weakly negatively related to occupational outcomes. In a clearer fashion, educational expansion and occupational upgrading in the labour market within each country contribute (in counteracting ways) to short-term changes in occupational allocation, with educational expansion leading to reduced, and occupational upgrading implying increasing, levels of status attainment. Increasing youth-adult ratios in the market also correspond with small increases in status attainment.

In turn, status attainment is more clearly linked to individual resources. Young women tend to achieve slightly more favourable employment positions, while the reverse result holds for the most recent entrants to the market. The role of education is crucial, however, and accounting for the level and type of qualifications taps most of the existing variation between qualifications in terms of average occupational status outcomes. At average context conditions, the model predicts a status score of 31.7 for the lowest qualified, with returns to apprenticeships of about 3.5 status points, 7 points for leavers from upper secondary vocational education, 8.5 status points for entrants from upper secondary general education, 16 ISEI score points for leavers from lower tertiary education and up to 30 points for university graduates. In addition, there is no evidence of strong interactions between educational effects and institutional systems, so that leavers in OLM contexts perform only slightly better overall than do their counterparts in both ILM and Southern systems.

Table 4 **Status Attainment at Labour Market Entry, Multilevel Estimation (Log ISEI Score)**

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut. systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	3.757**	3.750**	3.727**	3.731**	3.726**	3.726**	3.726**
Women			0.012**	0.012**	0.012**	0.012**	0.012**
1st/2nd year leaver			-0.018**	-0.018**	-0.018**	-0.018**	-0.018**
Education [Ref: lower secondary]							
Apprenticeships			-0.168**	-0.169**	-0.171**	-0.171**	-0.172**
Upper secondary vocational			-0.073**	-0.071**	-0.072**	-0.073**	-0.072**
Upper secondary general			-0.037**	-0.037**	-0.035*	-0.035*	-0.030
Lower tertiary			0.140**	0.139**	0.140**	0.140**	0.138**
University degree			0.401**	0.401**	0.402**	0.402**	0.405**
Institutional Systems [Ref: ILM]							
OLM Systems				0.019	0.021	0.021	0.020
OLM x Upper secondary general							-0.009
OLM x Upper secondary vocational							-0.010
OLM x Apprenticeships							0.001
OLM x Lower tertiary							0.015
OLM x University degree							0.017
Southern Systems				0.016	-0.013	-0.013	-0.015
South x Upper secondary general							0.038
South x Upper secondary vocational							0.016
South x Lower tertiary							-0.031
South x University degree							0.008
Between-Country Context							
Unemployment Rate					-0.002	-0.002	-0.002
Youth-Adult Ratio					0.002	0.002	0.002
% Tertiary Level Qualifications					-0.007*	-0.007*	-0.007*
% Professional Employment					0.002	0.002	0.002
Within-Country Changes							
Business Cycle						0.001	0.001
Youth-Adult Ratio						0.001**	0.001**
Educational Expansion						-0.014**	-0.014**
Occupational Upgrading						0.021**	0.021**
Variance Components							
$\sigma^2_{Education}$	/	0.058	0.004	0.004	0.004	0.004	0.004
$\sigma^2_{Country}$	0.003	(n.e.)	0.002	0.001	0.001	0.001	0.001
Deviance	59,294	59,242	59,244	59,244	59,244	59,240	59,239
N	59,306	59,306	59,306	59,306	59,306	59,306	59,306
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p<.05 and *p<.10; all variables are entered effect-coded and mean-centered; (n.e.) – country-level random effect not estimated due to convergence problems.

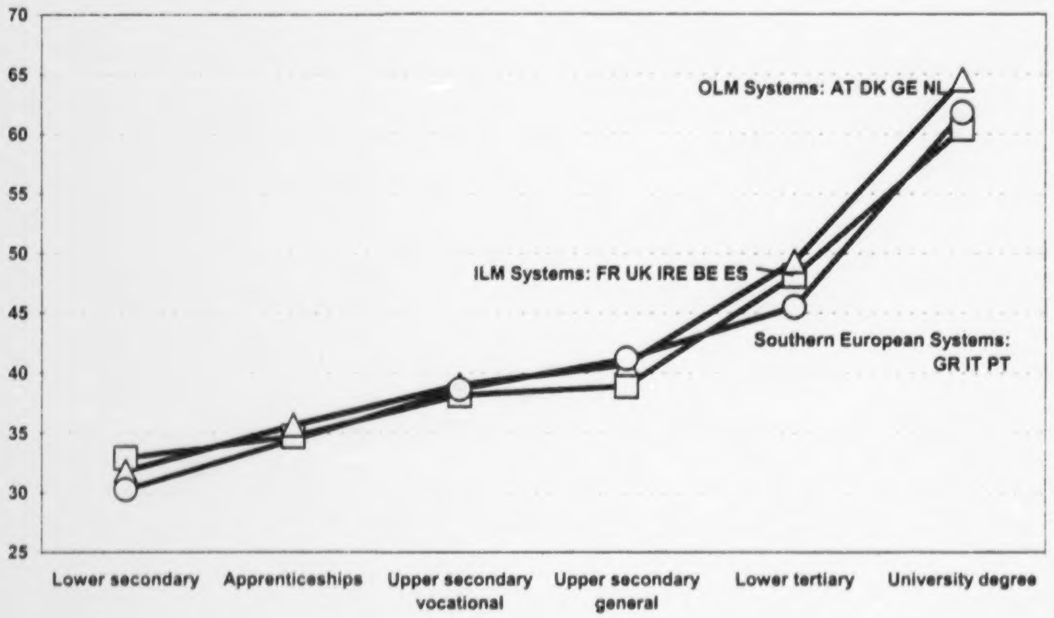
Source: European Community Labour Force Survey 1992-1997

Table 5 **Status Attainment at Labour Market Entry, Discrete Change Effects (ISEI Score)**

	Overall	Educational Qualification					
		Lower secondary	Apprentice-ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	41.4	31.7	35.2	38.6	40.3	47.6	62.2
Institutional Systems							
ILM Systems	-0.28	1.28	-0.47	-0.45	-1.35	+0.50	-1.80
OLM Systems	+0.80	+0.17	+0.47	+0.40	+0.46	+1.70	+2.32
Southern Europe	-0.59	-1.39	N/A	+0.05	+0.93	-2.12	-0.45
Between-Country Economic Factors							
Aggregate Unemployment Rate	-0.10	-0.08	-0.08	-0.09	-0.10	-0.11	-0.15
Youth-Adult Ratio	+0.08	+0.06	+0.07	+0.07	+0.08	+0.09	+0.12
% Tertiary Level Qualifications	-0.30	-0.23	-0.25	-0.28	-0.29	-0.34	-0.45
% Professional Employment	+0.07	+0.05	+0.06	+0.07	+0.07	+0.08	+0.11
Within-Country Economic Trends							
Business Cycle	+0.03	+0.03	+0.03	+0.03	+0.03	+0.04	+0.05
Youth-Adult Ratio	+0.06	+0.04	+0.05	+0.05	+0.06	+0.07	+0.09
Educational Expansion	-0.59	-0.45	-0.50	-0.55	-0.58	-0.68	-0.89
Occupational Upgrading	+0.89	+0.68	+0.75	+0.83	+0.86	+1.02	+1.33

Notes: Predictions based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 3 for further details.

Figure 6 **Predicted ISEI Scores by Institutional Contexts and Education**



Notes: Predicted status scores based on final model at the means of covariates.

5.2.2 Incidence of Lower-Skilled Employment

As status scores provide summary measures of different aspects of employment positions, they are notoriously difficult to interpret. Therefore, two alternative, discrete measures of occupational allocation are considered here, namely allocation at the top and bottom level of the occupational hierarchy. Turning to the latter first, Table 6 presents the outcomes of estimated multilevel models of the incidence of such lower-level employment at market entry. Again, Table 7 gives the estimates of discrete change effects and Figure 3 graphically depicts the predicted probabilities by educational groups and institutional systems. Compared to the case of unemployment, overall cross-national variation in this indicator is much smaller ($\sigma^2=.11$ in Model 0 vs. $\sigma^2=.52$), yet variation between types of qualifications much more important ($\sigma^2=1.48$ in Model 1 vs. $\sigma^2=.72$). Most of this variation is again captured by differentiating between the six types of qualifications, with little evidence of strong interactions between educational effects and institutional contexts. Nor is there evidence of substantial differences in the incidence of lower-skilled employment between institutional systems or according to measured economic context factors. It is only that increasing educational expansion within countries fosters, while increasing occupational upgrading appears to reduce, the probability of lower-level employment at entering the labour market in the short run. Actually, most of the country differences explained by the introduction of systematic factors into the model are related to cross-national differences in educational distributions, leaving a still relatively large proportion of overall country differences unexplained.

With respect to individual-level factors, recent market entrants again face relatively less favourable outcomes, while the evidence on gender differences is weak at best. However, as indicated above, educational differences are pronounced. In average context conditions, the probability of being in any kind of lower-level occupation within the first five years in the market is estimated at .55 for the lowest qualified, but at .045 only for university leavers. The predicted probability for leavers from lower tertiary education is slightly less than .13, while the respective figures for leavers from the different types of upper secondary education and training are around one third. There is slight evidence of institutional variation in the role of education here, with educational stratification being slightly more pronounced in OLM systems: there, the lowest qualified leavers have somewhat higher risk of ending up in lower-level jobs, while the reverse is true for school-based upper secondary and tertiary qualifications. Systematic differences between ILM and Southern countries are hardly discernible.

Table 6 **Lower-Skilled Employment at Labour Market Entry, Multilevel Logit Estimation**

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut. systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	-0.890**	-1.212**	-1.100**	-1.123**	-1.099**	-1.104**	-1.117**
Women			0.017*	0.017*	0.017*	0.018*	0.018*
1st/2nd year leaver			0.110**	0.110**	0.110**	0.108**	0.108**
Education [Ref: lower secondary]							
Apprenticeships			0.507**	0.521**	0.540**	0.539**	0.493**
Upper secondary vocational			0.389**	0.379**	0.383**	0.386**	0.396**
Upper secondary general			0.553**	0.549**	0.540**	0.541**	0.542**
Lower tertiary			-0.821**	-0.816**	-0.822**	-0.834**	-0.811**
University degree			-1.926**	-1.932**	-1.939**	-1.943**	-1.941**
Institutional Systems [Ref: ILM]							
OLM Systems				-0.170	-0.117	-0.118	-0.151
OLM x Upper secondary general							-0.079
OLM x Upper secondary vocational							-0.005
OLM x Apprenticeships							0.261*
OLM x Lower tertiary							-0.218
OLM x University degree							-0.291*
Southern Systems				-0.059	0.044	0.043	0.089
South x Upper secondary general							-0.005
South x Upper secondary vocational							-0.004
South x Lower tertiary							0.089
South x University degree							0.174
Between-Country Context							
Unemployment Rate					0.025	0.025	0.026
Youth-Adult Ratio					0.020	0.019	0.009
% Tertiary Level Qualifications					0.020	0.021	0.024
% Professional Employment					-0.003	-0.004	-0.003
Within-Country Changes							
Business Cycle						-0.005	-0.005
Youth-Adult Ratio						0.002	0.002
Educational Expansion						0.106**	0.106**
Occupational Upgrading						-0.059*	-0.059*
Variance Components							
$\sigma^2_{Education}$	/	1.484	0.121	0.121	0.122	0.125	0.124
$\sigma^2_{Country}$	0.113	(n.e.)	0.062	0.040	0.049	0.047	0.046
Deviance	73,343	63,869	63,779	63,779	63,778	63,682	63,678
N	63,715	63,715	63,715	63,715	63,715	63,715	63,715
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p<.05 and *p<.10; all variables are entered effect-coded and mean-centered. (n.e.) – country-level random effect not estimated due to convergence problems

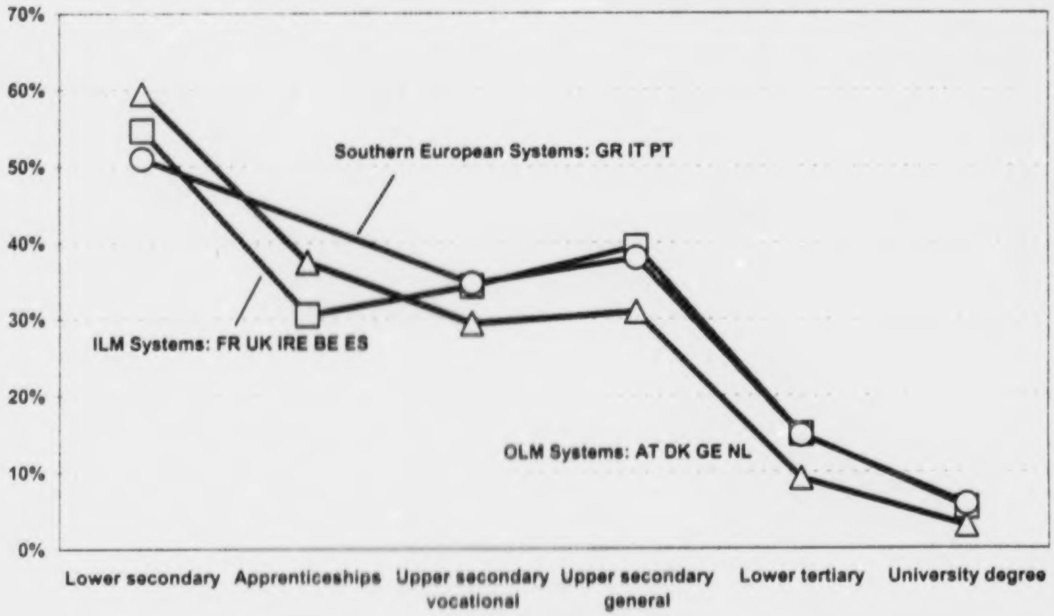
Source: European Community Labour Force Survey 1992-1997

Table 7 **Lower-Skilled Employment at Labour Market Entry, Discrete Change Effects**

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	0.329	0.551	0.339	0.327	0.360	0.127	0.045
Institutional Systems							
ILM Systems	+0.005	-0.004	-0.034	+0.016	+0.034	+0.023	+0.008
OLM Systems	-0.001	+0.044	+0.035	-0.033	-0.051	-0.036	-0.016
Southern Europe	+0.003	-0.041	N/A	+0.019	+0.020	+0.021	+0.013
Between-Country Economic Factors							
Aggregate Unemployment Rate	+0.005	+0.006	+0.006	+0.006	+0.006	+0.003	+0.001
Youth-Adult Ratio	+0.002	+0.002	+0.002	+0.002	+0.002	+0.001	+0.000
% Tertiary Level Qualifications	+0.005	+0.006	+0.005	+0.005	+0.006	+0.003	+0.001
% Professional Employment	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000	-0.000
Within-Country Economic Trends							
Business Cycle	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	+0.000
Youth-Adult Ratio	+0.000	+0.001	+0.001	+0.001	+0.001	+0.000	+0.000
Educational Expansion	+0.020	+0.026	+0.024	+0.024	+0.025	+0.012	+0.005
Occupational Upgrading	-0.011	-0.015	-0.013	-0.013	-0.013	-0.006	-0.002

Notes: Predicted probabilities based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 5 for further details.

Figure 7 **Predicted Probabilities by Institutional Contexts and Education**



Notes: Predicted probabilities based on final model at the means of covariates.

5.2.3 Access to Professional Employment Positions

As a final indicator of initial occupational allocation, the probability of access to professional employment positions at entering the market is considered. And as before, Table 8 provides full details of the estimated models, while Table 9 holds the predicted probabilities and discrete change effects, which are in part depicted graphically in Figure 4. The two null models (Models 0/1) indicate substantial variation in this variable, both cross-nationally (σ^2=.204) and between types of education (σ^2=3.267), which is consistently larger than with respect to the incidence of lower-skilled employment. And as in the previous estimation, cross-national variation in terms of occupational allocation is much smaller than was the case for unemployment, while variation between types of education is considerably larger. But again, most of the variance between types of education is accounted for by differentiating the six measured categories of education. There is almost no evidence of a systematic interaction between educational effects and institutional systems. But there is evidence of an institutional difference at the country level, reducing the country level variation by more than half (σ^2=.11 in Model 3 vs. σ^2=.26 in Model 2). According to the parameter estimates in Model 3, market entrants in OLM systems have a consistently higher probability of professional employment than do their counterparts in both Southern and ILM systems. As the estimation provided by Model 4 clarifies, part of this favourable situation is due to a more favourable aggregate labour market situation and, on average, a smaller proportion of tertiary qualifications in the market, both of which notably improve the relative position of OLM and Southern Europe versus ILM systems. Still, a systematically more favourable situation prevails in OLM systems after controlling for country-level economic context factors, which captures most of the variance between countries. In addition, the same trend effects as for status attainment can be established, with the probability of attaining professional positions declining with educational expansion, increasing with occupational upgrading, and weakly increasing with growing youth-adult ratios in the labour force.

Turning to the individual-level factors, I find a negative effect on the probability of professional employment for women and most recent market entrants. The pervasive effects of educational qualifications are again best described by considering the predicted probabilities at the average context conditions, as provided in Table 9 and Figure 4, respectively. Of course, attainment of such prestigious positions is basically confined to leavers from tertiary education, with predicted probabilities for secondary-level leavers not exceeding a level of about .10 in any case. For tertiary level leavers, the model estimation predicts an average probability of .45 for leavers from lower tertiary education, and .71 for university graduates. In this case, there is also evidence of variation between institutional systems, with relatively larger advantages to both types of tertiary qualifications in OLM contexts and to lower tertiary leavers in Southern Europe. The relatively more advantageous position of tertiary leavers in OLM contexts leads to a probability differential of about .05 as compared to the average prediction for both groups of tertiary leavers, and a differential of .10 between OLM systems and the least advantageous system, respectively (ILM systems for lower tertiary, and Southern Europe for university graduates).

Table 8 Professional Employment at Labour Market Entry, Multilevel Logit Estimation

	Model 0 Country random effect	Model 1 Country+ education random effects	Model 2 M1 + individual factors	Model 3 M2 + institut. systems	Model 4 M3 + country effects	Model 5 M4 + economic trends	Model 6 M5 + systems x education
Intercept	-1.076**	-1.572**	-1.763**	-1.735**	-1.783**	-1.786**	-1.785**
Women			-0.035**	-0.035**	-0.035**	-0.036**	-0.036**
1st/2nd year leaver			-0.173**	-0.173**	-0.173**	-0.173**	-0.173**
Education [Ref: lower secondary]							
Apprenticeships			-1.421**	-1.435**	-1.446**	-1.449**	-1.437**
Upper secondary vocational			-0.404**	-0.393**	-0.407**	-0.413**	-0.404**
Upper secondary general			-0.499**	-0.496**	-0.483**	-0.482**	-0.467**
Lower tertiary			1.557**	1.549**	1.554**	1.563**	1.597**
University degree			2.658**	2.662**	2.668**	2.677**	2.683**
Institutional Systems [Ref: ILM]							
OLM Systems				0.504**	0.352**	0.354**	0.370**
OLM x Upper secondary general							-0.070
OLM x Upper secondary vocational							0.005
OLM x Apprenticeships							-0.061
OLM x Lower tertiary							-0.171
OLM x University degree							-0.075
Southern Systems				-0.082	-0.263	-0.266	-0.279
South x Upper secondary general							0.165
South x Upper secondary vocational							0.025
South x Lower tertiary							0.344*
South x University degree							0.082
Between-Country Context							
Unemployment Rate					-0.058*	-0.058*	-0.054
Youth-Adult Ratio					-0.040	-0.039	-0.033
% Tertiary Level Qualifications					-0.040*	-0.040*	-0.044*
% Professional Employment					0.009	0.009	0.013
Within-Country Changes							
Business Cycle						0.008	0.007
Youth-Adult Ratio						0.010**	0.010**
Educational Expansion						-0.111**	-0.111**
Occupational Upgrading						0.168**	0.169**
Variance Components							
$\sigma^2_{Education}$	/	3.267	0.168	0.165	0.167	0.173	0.168
$\sigma^2_{Country}$	0.204	(n.e.)	0.257	0.111	0.020	0.020	0.029
Deviance	71,377	47,947	47,784	47,785	47,784	47,745	47,742
N	63,742	63,742	63,742	63,742	63,742	63,742	63,742
Periods	66	66	66	66	66	66	66
Educational Groups	/	63	63	63	63	63	63
Countries	12	12	12	12	12	12	12

Notes: Statistical significance at **p<.05 and *p<.10; all variables are entered effect-coded and mean-centered. (n.e.) – country-level random effect not estimated due to convergence problems

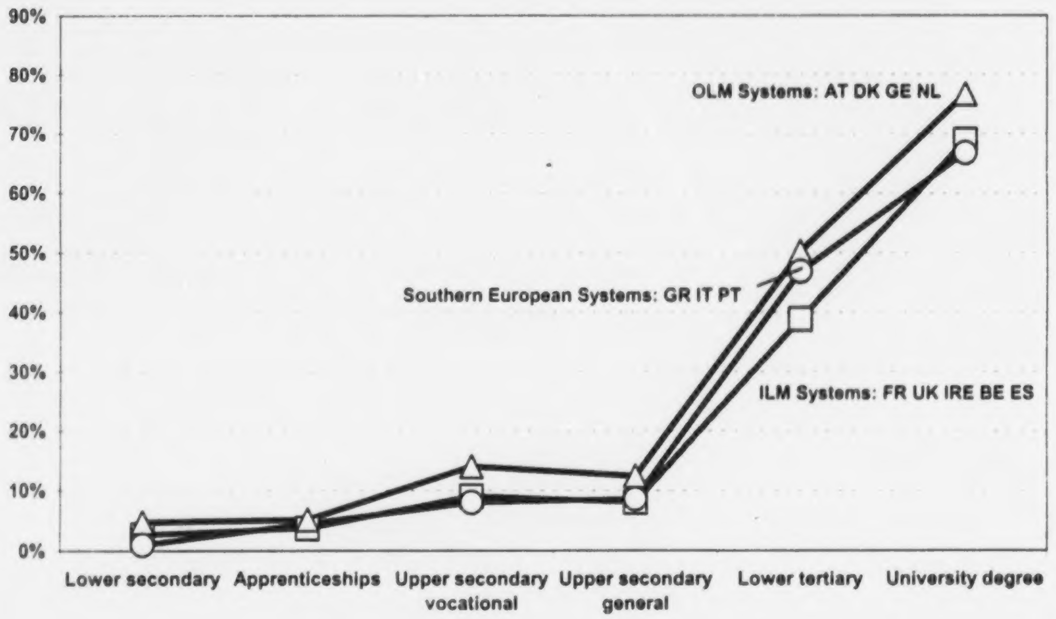
Source: European Community Labour Force Survey 1992-1997

Table 9 Professional Employment at Labour Market Entry, Discrete Change Effects

	Overall	Educational Qualification					
		Lower secondary	Apprentice -ships	Upper secondary vocational	Upper secondary general	Lower tertiary	University degree
Average Prediction	0.208	0.023	0.044	0.101	0.095	0.453	0.711
Institutional Systems							
ILM Systems	-0.012	+0.004	-0.007	-0.010	-0.015	-0.064	-0.021
OLM Systems	+0.033	+0.024	+0.008	+0.039	+0.029	+0.050	+0.057
Southern Europe	-0.018	-0.013	N/A	-0.021	-0.009	+0.016	-0.042
Between-Country Economic Factors							
Aggregate Unemployment Rate	-0.005	-0.001	-0.002	-0.005	-0.005	-0.013	-0.011
Youth-Adult Ratio	-0.003	-0.001	-0.001	-0.003	-0.003	-0.008	-0.007
% Tertiary Level Qualifications	-0.004	-0.001	-0.002	-0.004	-0.004	-0.011	-0.009
% Professional Employment	+0.001	+0.000	+0.001	+0.001	+0.001	+0.003	+0.003
Within-Country Economic Trends							
Business Cycle	+0.001	+0.000	+0.000	+0.001	+0.001	+0.002	+0.001
Youth-Adult Ratio	+0.001	+0.000	+0.000	+0.001	+0.001	+0.002	+0.002
Educational Expansion	-0.011	-0.002	-0.004	-0.010	-0.009	-0.027	-0.023
Occupational Upgrading	+0.017	+0.004	+0.008	+0.016	+0.016	+0.042	+0.033

Notes: Predicted probabilities based on final model at the means of covariates; figures represent discrete change effects for dummy variables and unit effects of covariates respectively. Cf. Table 7 for further details.

Figure 8 Predicted Probabilities by Institutional Contexts and Education



Notes: Predicted probabilities based on final model at the means of covariates.

5.3 Comparing Labour Market Entry across Institutional Systems

Having performed a set of comparative analyses of unemployment and occupational allocation at labour market entry, where the role of educational resources and the role of different institutional contexts for market entry, both providing different qualificational backgrounds to market entrants and varying conditions for converting educational resources into labour market outcomes, has been emphasized, the final question to be addressed is whether and to what extent such institutional differences are able to explain the observed differences between institutional systems in terms of labour market entry patterns. The results of a final analysis decomposing the empirical differences between the three institutional systems differentiated throughout the paper according to the systematic effects established in the multivariate analyses are given in Table 10. There, empirical differences in aggregate labour market entry outcomes between the systems are related to system level differences in (a) the distribution of qualifications among market entrants (education and training systems), (b) the effects of institutional labour market systems, encompassing both the estimated main effects and the interaction between system type and education (labour market context), (c) aggregate labour market conditions, and (d) the extent of educational expansion, as measured by the proportion of tertiary degrees in the market. In the first column of the table, the aggregate prediction at average context conditions are repeated from the respective tables in the above section. The last column provides the empirical aggregate system differences at otherwise average context conditions, expressed as the deviation from the overall average in the first column. As such, the well-known advantage of OLM systems with respect to market entrants' unemployment risks is expressed as a -.11 reduction of the overall unemployment rate as compared to the EU average prediction of .20. On the other hand, the Southern countries empirically deviate sharply from this average by about the same factor, yet in opposite direction. In similar ways, empirical system differences are provided for the different indicators of occupational allocation, which also reflect results reported in earlier sections: there are only minor systemic differences in terms of ISEI status scores, while OLM systems perform markedly better both in terms of a lower proportion of lower-skilled employment among market entrants (-.10 reduction from the average prediction of .33) and a larger proportion of young people in professional employment positions (.09 increase from the average prediction of .21). Notably with respect to the latter dimension, market entrants in Southern Europe hold such advantageous positions to a markedly smaller extent (-.08 decrease from an average of .21). In most cases, ILM systems score close to the EU average.

To what extent can these empirical differences be related to systemic differences in the role of education and in the distribution of qualifications among school leavers? Columns 2-4 hold the information of main interest here, as they give the predicted institutional differences to these factors, both in terms of their single and combined effects. Columns 5 and 6 add country differences in aggregate unemployment and the degree of educational expansion to this, providing some indications of how well overall differences between systems can be reproduced from a selected set of factors controlled in the multivariate models. And although the precise figures of course vary, the general conclusion is that institutional differences related to market entrants' educational resources tend to explain a major part of the empirically observed differences between systems on all four indicators.

This can be more easily discussed for the two systems deviating clearly from the EU average, the OLM and the Southern ones. Taking a look at the decompositions of OLM system performance first, institutional differences related to education and training explain about two thirds of the favourable system performance in terms of unemployment (.072/.113), all of the (small) advantage in terms of status attainment, about 40% of the favourable performance in terms of lower-skilled employment (.037/.10), and finally, more than half the favourable situation with respect to professional employment outcomes (.05/.089). In each case, the favourable situation for market entrants in OLM systems is additionally fostered by a currently relatively favourable economic situation, but this effect is generally smaller than the institutional difference. Considering the educational effects in more detail, it is also apparent that the advantage of OLM systems rests on both a more favourable institutional context in labour markets and a more favourable qualificational background of market entrants, although the precise relation varies depending on the indicator chosen. With respect to unemployment, both effects are of equal importance. In the case of occupational allocation, it is mostly a relatively favourable qualificational background of market entrants that generates the system-level advantage in terms of lower-skilled employment, while in the case of professional employment, there is evidence of a relatively strong role of favourable institutional conditions in the labour market in addition to the positive effects of differences in market entrants' educational background.

The situation, interestingly, is quite different in the Southern systems. Here, institutional differences related to the role and distribution of education among market entrants similarly explain a major part of the observed deviating pattern, in all cases reproducing or even overestimating actual system differences. In contrast to the OLM pattern, the relative importance of each component in bringing about this overall result is clear-cut, however. Southern Europe deviates in terms of aggregate unemployment because the institutional context of labour markets works markedly against young people at all levels of education; the additional contribution of a still less favourable educational background of market entrants is only comparatively small. In turn, lower occupational outcomes for market entrants are mostly related to the relatively unfavourable educational distribution among market entrants rather than variation in the role of education for occupational attainment.

Table 10 Institutional Systems and Labour Market Entry: Decomposing System Performance

	Average Prediction	System Differences					Empirical Differences (at average context conditions)
		(a) Educational Systems - Educational Distribution	(b) Labour Market Context	(a+b) Educational Systems + Labour Market Context	(a+b+c) Education + Aggregate Unemployment Rate	(a+b+c+d) Education + Unemployment Rate + % Tertiary Education	
				Unemployment Risks			
Probability of Unemployment							
ILM Systems	0.202	+0.007	-0.014	-0.009	+0.059	+0.058	+0.015
OLM Systems	0.202	-0.040	-0.046	-0.072	-0.119	-0.119	-0.113
Southern Europe	0.202	+0.037	+0.115	+0.129	+0.130	+0.131	+0.116
				Occupational Allocation			
Status Attainment (ISEI Score)							
ILM Systems	41.4	+0.51	-0.28	+0.31	+0.04	-0.81	-0.20
OLM Systems	41.4	+1.00	+0.80	+1.93	+2.30	+1.89	+1.74
Southern Europe	41.4	-2.36	-0.59	-2.77	-2.77	-0.91	-1.85
Probability of Lower-Skilled Employment							
ILM Systems	0.329	-0.003	+0.005	+0.006	+0.020	+0.033	+0.051
OLM Systems	0.329	-0.046	-0.001	-0.037	-0.053	-0.048	-0.100
Southern Europe	0.329	+0.066	+0.003	+0.059	+0.059	+0.025	+0.024
Probability of Professional Employment							
ILM Systems	0.208	+0.017	-0.012	+0.003	-0.012	-0.024	-0.019
OLM Systems	0.208	+0.022	+0.033	+0.050	+0.069	+0.064	+0.089
Southern Europe	0.208	-0.064	-0.018	-0.080	-0.080	-0.060	-0.076

Notes: Predicted system differences compared to the average prediction; all predictions are based on the final model for each dependent variable. Cf. Tables 1, 3, 5, and 7 for further details.

6 Summary and Conclusions

In sum, the empirical analyses provided reiterate the standard result of the crucial role of education for successful integration of young people into the labour market. Even in this early stage of careers, education provides a highly productive resource for favourable labour market attainment. In general, market entrants with higher levels of education experience lower unemployment risks and more favourable occupational allocation in their initial years in the labour force. In addition, vocational specialization and notably the completion of vocational training in an apprenticeship or dual system environment markedly reduce unemployment risks as compared to those of both lower secondary leavers and leavers with academic upper secondary education. These results hold across a sample of twelve European countries in the mid-1990s, controlling for very different economic context conditions prevailing in these countries and allowing for otherwise unmeasured heterogeneity between countries and types of education.

Insofar as European education and training systems produce markedly different qualification profiles among market entrants, these results bear important implications for an institutional explanation of cross-national differences in labour market outcomes for those entering the market. As education and training systems vary in their effectiveness in of providing young people with productive qualificational resources valued in labour markets, a large part of cross-national differences in market entrants' unemployment rates or initial occupational attainment can consistently be related to compositional differences between countries in the distribution of qualifications among market entrants. Contrasting the group of dual system type countries to the other Northern European countries, these compositional differences alone account for about 50% of the empirical differential in terms of unemployment rates and still around one third of the differential in the incidence of lower-skilled employment. Clearly, the institutional structure of education and training systems is a most powerful factor in achieving smooth transition patterns between education and work and a quick integration of young people into working life. Given that the major division between Northern European countries occurs in terms of the relative importance of vocational training at the upper secondary level and, associated to it, in the extent of dual system arrangements for training provision, it is clear that such training arrangements constitute a major source of smoother transition patterns in dual system countries. Additionally, there is some evidence that current lower levels of education among market entrants in Southern Europe partially contribute to less favourable transition outcomes, although this applies more to lower aggregate levels of occupational attainment than in the case of unemployment.

In assessing these results on the importance of education and training systems for explaining cross-national differences in labour market entry, it should be emphasized again that the estimated models provide a substantial advancement beyond available evidence as they, in contrast to alternative studies, are derived from an explicitly microlevel estimation which additionally incorporates an extensive set of measured and unmeasured macrolevel controls in a simultaneous estimation. This implies that even after statistically controlling for the effects of varying economic context conditions on transition outcomes, fundamental institutional differences operate in bringing about observed cross-national differences. This not only includes the compositional effects discussed above, but also the impact of institutional arrangements in labour markets, as explored by a fairly crude distinction between three types of labour market systems in the analyses. According to the results, there is considerable evidence that rigid institutional conditions in the Southern European labour markets work against young people entering the market, irrespective of, and in a sense devaluing, earlier investments in education and training. Entering the labour market in a Southern European context is likely to imply a much extended period of unemployment before securing a first job as compared to the Northern European experience, even after controlling for education and economic context factors (cf. also Russell and O'Connell, 2000). Of course, the present analysis fails to identify the precise institutional sources for this pattern. Nevertheless, the comparative analysis strongly suggests avoiding oversimplified accounts of the Southern peculiarity. The lack of contract regulations allowing the adjustment of job rewards and initial productivity certainly have some role to play in this respect. Still, there is the intriguing observation that it is the highly qualified who face integration problems rather than the lowest qualified (as in Northern Europe) who would generally be expected to bear the unemployment costs of strong employment protection. Any explanation based on the effects of strict employment protection would thus have to come to terms with the fact that the lowest qualified do not do worse in Southern Europe as compared to Northern European economies. As far as I can see, there are two potential factors that might explain this pattern. The first argument would continue to focus on the detrimental effects of strict employment protection on young people's employment chances, but would argue that family networks in the small-firm based Southern economies effectively provide the functional substitute which generates the flexibility necessary to integrate less qualified leavers. If this were the case, one would of course also expect different selectivity patterns to operate at the secondary level of educational systems. Another argument consistent with the observed patterns would be to focus on differences in supply-side reactions to institutional rigidities in the labour market. If new entrants to the labour market intend and, indeed are, to a larger extent enabled to fulfil their occupational aspirations early in their careers, then one would also expect a selection of relatively highly educated into unemployment (cf. the accounts in e.g. Roberts et al., 1999). Obviously, much richer databases than the Labour Force Surveys are needed to test these implications.

At the same time as institutional rigidities in the Southern labour markets are indicated, the analyses also point to more favourable conditions for labour market entrants in OLM type labour market contexts. These positive effects occur in terms of unemployment risks, but also with respect to avoiding lower-skilled employment and access to employment in the professional sector. The results are consistent with arguments related to the operation of strong occupational labour markets, which tend to organize worker competition around skills rather than experience but whose viability depends heavily on the presence of a strong vocational training system (Marsden, 1990). The empirical findings can easily be read as indicating a more immediate match between qualifications and employment positions in these systems. In particular, better educated leavers have a systematically lower probability of starting their careers in lower level jobs and university graduates are significantly more likely to immediately enter the professional segment. Even more compelling is the evidence with respect to unemployment. In the OLM economies, it is vocational training (independent of its source) which provides for smoother market entry, in the other Northern European countries, it is the linkage to a specific employer through apprenticeship contracts or other dual types of training provision. Adding up the institutional effects discussed allows us to explain about 70% of the favourable performance of the set of OLM systems in terms of market entrants' unemployment risks, and still 50% and 40% of the advantage in terms of early access to professional employment and the incidence of lower-skilled employment, respectively.

A final remark about the role of education. As a whole, the stability of the labour market value of the different types of education across national and institutional contexts, as established in the analyses, suggests that we view qualifications mainly as a productive resource of market entrants in securing an adequate start to working life rather than a mere credentialist screening device. Education certainly bears signals about potential productivity to employers, but apparently the capacities conveyed by similar types of education are, broadly speaking, also recognized and rewarded by employers in fairly similar ways. This should not preclude a discussion of the relative merits of better or worse examples of specific national qualifications and their features – in fact, this is even accounted for in the estimated models. The point is that, in general, it pays off for market entrants to invest in training in precisely the ways predicted from a very simple theoretical framework relating smooth labour force integration to the expected training costs of market entrants, irrespective of more specific institutional, economic or other national circumstances. In sum, this also veritably reinstates education and the ways and means of training provision as a core instrument of policy considerations, notably at the lower levels of education where policy interventions are probably much more called for.

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WORKING PAPERS

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Comparative Analysis of Transitions from Education to Work in Europe

Changing Labour Markets and Early Career Outcomes: Labour Market Entry in Europe Over the Past Decade

Markus Gangl

Mannheim Centre for European Social Research (MZES)
University of Mannheim
P.O. Box 10 34 62
D-68131 Mannheim
Germany
E-mail: Markus.Gangl@mzes.uni-mannheim.de

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Abstract

The paper addresses the issue of the driving forces behind recent changes in labour market entry outcomes in Europe. Based on data for 12 European countries from the 1988-1997 European Community Labour Force Survey, the empirical analyses estimate panel data models to assess the effects of cyclical changes in aggregate economic conditions, changing youth cohort sizes, increasing educational expansion and structural changes in labour demand on market entrants unemployment risks and occupational allocation. In general, it is found that unemployment risks have closely followed the evolution of aggregate economic conditions with demographic factors having only a small impact. Changes in occupational allocation, in turn, are much dependent on the relative evolution of educational expansion and professionalization tendencies. In addition, these trends do not affect all leavers evenly: the lowest qualified are most heavily affected by cyclical changes in economic conditions, while leavers from tertiary level education have been more strongly affected by trends of changing occupational attainment. Most discomforting, however, increasing labour force professionalization is found to contribute to increasing labour market difficulties among the lowest qualified.

1 Introduction[*]

A concern for the changing nature of education-to-work transitions is widespread in current studies of early labour force careers. Issues to be tackled abound: to what extent do recent upsurges in youth unemployment rates reflect a changing world economy and an increasing exclusion of the least skilled in Western economies? Is there a general trend towards the devaluation of qualifications in conjunction with a credentialist rat race towards achieving ever higher levels of education, leaving the least able unfailingly behind? Do traditional and relatively stable trajectories into working life dissolve in favour of individualistic and erratic job hopping patterns? Despite the prevalence of such rhetorics of change and the doubtless relevance of changing economic context conditions for understanding and explaining recent changes in the relation between education and early career trajectories, the available evidence is limited at best (e.g. Blossfeld, 1986, 1989; Konietzka, 1998, 1999; OECD, 1998 for exceptions), not least due to the lack of adequate data sources to study mid- or even longer-term labour market change. This is unfortunate for any structurally-minded approach to the study of labour force entry outcomes as more easily available information on individual characteristics of those entering into working life has come to play a more prominent role in empirical analysis than theory would necessarily suggest. More awkwardly, the impacts of more structural context conditions providing opportunities and constraints to young people entering the labour force are regularly not even addressed in the interpretation of results, even if changes in labour market outcomes or the stratification processes generating them are diagnosed.

This reasoning should, however, not be read as downplaying the role of individual action, resources and stratification processes related to them in generating labour force careers. Rather, the argument is that observed changes in transition outcomes should first and foremost be understood from what is called period effects in the terminology of life course research, i.e. varying structural context conditions which exert effects on all current participants in the labour market as they reflect the changing balance of various forces determining competition and allocation on the market, thus framing relevant behaviour and decisions within the broader structural context. Seen this way, the economic context in labour markets, broadly understood, is evidently a main factor shaping education-to-work transitions and their changing nature over time. As labour markets tighten, competition for jobs aggravates, potentially largely at the expense of those having entered the market only recently who lack work experience and longer-term attachments to a specific employer, rendering them much more vulnerable to job separations and dismissals. Similarly, the more long-term trends of educational expansion and the changing occupational structure might impact on early labour market outcomes as patterns of occupational allocation change, traditional trajectories of entering the market become more and more obsolete, new competencies are required by employers and qualifications become in part devaluated by their more widespread availability. Of course, each of these trends and economic context conditions might affect different leaver groups quite differently, thus affecting the nature of social stratification in the short or medium run. Finally, the impact of such trends may or may not be similar across all countries and arguments linking institutional arrangements in training systems and labour markets to market entrants labour force outcomes can easily be extended so as to expect varying degrees of institutional sheltering from the impacts of general economic trends.

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Drawing on a unique database covering 12 European countries, the paper seeks to address these effects of changing labour market conditions on early career outcomes for those who entered the labour market between the late 1980s and the late 1990s. In order to investigate into two major aspects of recent changes in transition outcomes, the analyses address market entrants' unemployment risks and their occupational allocation in the early career stages. Combining repeated cross-sectional microdata for a relatively large sample of countries over the past decade moreover allows us to estimate panel data models which simultaneously control for individual and structural effects in the labour market attainment process. In doing so, the paper represents an attempt to decompose successful labour market entry into the effects of individual resources and characteristics, notably in terms of qualifications, and the impact of context conditions, including both institutional differences between countries and economic differences between countries and over time. As the effects of labour market conditions on transition outcomes have – with the exception of local labour market conditions (e.g. Bynner, 1994; Evans and Heinz, 1994; Heinz, 1999) – hardly been systematically addressed, the interest of the current paper clearly is with the latter. The issues of qualification effects and their linkages to specific institutional contexts is discussed in more detail in a companion paper to the current one, which applies a similar methodology (cf. Gangl, 2000b). The following section discusses the theoretical background and hypotheses of the paper, while Section 3 describes the database and research design applied in the analyses. The empirical results are discussed in two sections, with Section 4 providing some descriptive results on trends in transition outcomes over the past decade and Section 5 containing the multivariate analyses. The results are summarized in a concluding section.

2 Economic Context and Changing Patterns of Labour Market Entry

2.1 Economic Context and Labour Market Entry

At a most general level, labour market outcomes are generated from the stochastic matching between available labour supply and available labour demand, representing the joint outcome from worker choice and worker opportunity in terms of vacancies and the respective evaluation processes of worker and job characteristics (cf. Fine, 1998, for a review of labour market theory and notably the more structurally oriented labour market models like queueing theory [Thurow 1975; Boudon 1974, 1982] and more recent matching models [Kalleberg/Sørensen 1979; Granovetter, 1981; Eliason, 1995;

Logan, 1996]). As such, labour markets are best understood by estimating the values of workers' and employers' resources which are exchanged in the market as well as the nature of competition and rules of allocation that prevail in the market. From the workers' perspective, the labour market exchange is ideally an exchange of qualifications for work time and productivity in a given job, which is rewarded by wages, job security, promotion opportunities, fringe benefits and the like (cf. Akerlof, 1982, for a more extensive discussion). The point of departure for discussing the impact of context effects on this matching and exchange relationship is to note that these mutual evaluation processes, and consequently, labour market outcomes and the rewards and advantages attached to valued resources like e.g. education or professional experience are fundamentally relative in nature, notably relative in terms of workers and employers position in the supply and demand distributions (Coleman, 1991; Sakamoto and Powers, 1995). Economic context conditions might now be understood as a shorthand for describing the relative balance of these different components of labour market matching processes, and hence, describing the prevailing conditions of competition, allocation and matching.

This simplistic framework suggests four major types of structural trends which should affect the level of matching activity as well as competition and allocation patterns on the labour market, namely contraction or expansion forces on both labour supply and labour demand versus distributional changes within the available supply of both workers and jobs. Changes in each of these four context conditions can be expected to generate a distinct labour market response as labour market matching activities adjust accordingly. Tacitly assuming non-immediate adjustment in the market and relatively fixed factors in the short run, these different effects will be discussed in turn, treating contraction/expansion forces first and turning to structural shifts in the supply and demand distributions afterwards. Contraction and expansion forces potentially apply to either labour supply or labour demand; consequently, it is possible to distinguishe between supply-side *demographic pressures* and demand-side *business cycle* effects here.[1] Either type of change will affect labour market outcomes primarily via unemployment risks as the short-term balance between supply and demand on the market is changed. Moreover, both types of changes should have offsetting and counteracting effects: increasing labour supply implies a relative oversupply of work in the short run, which leads to individually rising probabilities of unemployment. In turn, more buoyant labour markets imply increasing relative levels of labour demand, contributing thus to generally reduced unemployment risks. It has to be recognised, however, that the impact of these expanding or contracting forces is not necessarily neutral in terms of observed labour market stratification. Changing conditions of competition in the labour market should come mostly at the expense of the relatively least competitive individuals (Coleman, 1991; Sprengers, 1992). As competition for available jobs tightens – due to either increasing labour supply or decreasing labour demand – the relative value of the least attractive resources in the market should decline most strongly. Alternatively, one might also argue that demand contractions occur disproportionately at the level of lower skilled employment

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[1] Note that the available time series of a decade does not allow a differentiation between short-term cyclical or longer-term structural expansions and contractions of labour demand. Hence, I use the term business cycle as a convenient shorthand for, and equivalent to, labour demand expansion or contraction.

(e.g. Bowlus, 1995; Storer, 1994). In consequence, tightened competition is expected to imply higher unemployment risks for the most recent entrants to the market in general as they lack the work experience of more adult workers and to the least qualified in particular who additionally possess the least valuable resources. To the extent that downward substitution occurs in the labour market as a consequence of match shortages, contraction trends should also lead to negative effects on occupational attainment. Of course, the respective reverse predictions apply in the case of supply contraction or demand expansion which imply loosened competition contexts in the labour market.

A second issue, which has been at the center of much social science debate, are the effects of structural changes in either the distribution of qualifications or jobs. These types of changes will be referred to as *educational expansion* and *occupational professionalization*. Both types of changes have been, in principle, firmly established for major European countries. Educational expansion has been traced back to the post-war period (e.g. Müller and Wolbers 1999; Müller/Haun 1994; Müller et al., 1997; Brauns 1998), with most recent developments involving substantial increases in the proportion of tertiary level graduates in the population and among market entrants in most countries. The case is less clear with respect to skill changes on the demand side (cf. Penn et al., 1994, for an overview), which are regularly discussed under the headings of upskilling, professionalization or skill-biased technological change (e.g. Gallie et al., 1998; Berman et al., 1999; Gregg and Manning, 1997), all implying a shift in labour demand to more skill intensive labour. It is, however, unclear so far whether observed trends represent a unidirectional and secular development or whether they should be seen as part of an ongoing polarization of employment. Due to data limitations, the evolution of lower-skilled employment cannot be explored in the context of this paper and the issue has thus to be left for future research. In addition, a focus on professionalization fits well with the empirical fact of educational expansion at the tertiary level as a main trend for labour supply over the past decade.

It is argued here that these two types of structural shifts, in contrast to the expansion and contraction forces in the market discussed earlier, primarily affect occupational allocation and occupational returns to education, rather than unemployment risks (cf. the reasoning in Boudon 1974, 1982; Collins 1979). Both types of changes affect the relative availability of qualifications and particular occupations, and consequently, the relationships between qualifications and occupoational allocation: ceteris paribus, increasing availability of particular qualifications implies decreasing average levels of occupational attainment at each level of qualifications as processes of downward substitution in the system will be triggered. Increased professionalization will, in turn, increase the average levels of occupational attainment and, notably, improve the probability of securing professional employment positions as the availability of such high-skill positions increases. Clearly, both types of changes are again offsetting and counteracting factors, so that the net outcome is a question of the relative development of both trends. Existing empirical studies tend to lend partial support to these claims, although the evidence is much contested (e.g. Brauns, Müller, Steinmann, 1998; Handl, 1996; van der Ploeg, 1994; Dronkers, 1999, for analyses on educational expansion; Barrett et al., 1999; Moll, 1992; Parcel and Mueller, 1989; Sørensen and Blossfeld, 1989; Nickell and Bell, 1995; Gregg and Manning, 1997, Gallie et al., 1998, for studies in the line of occupational upskilling and technological change). In contrast to most of

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these earlier studies that are restricted to a time series for single countries, the present paper holds the promise of more reliable results as a sample of several countries can be used in the analyses.

Returning to the theoretical arguments, it should be recognized that these types of changes also potentially affect the nature of stratification in early labour market outcomes. Given the nature of changes that occurred over the past decade in Europe (cf. also Section 4 below), one might expect an occupational devaluation of credentials due to educational expansion to occur mostly at the tertiary level of education as in most European countries under study it was more the relation between upper secondary and tertiary education that changed rather than a further decline of low educational achievement (cf. Müller and Wolbers, 2000). In a similar vein, the increasing demand for professional employment should by and large be to the benefit of tertiary level educated leavers from the educational system, so that, in sum, changes in labour market stratification in terms of occupational outcomes should mainly result from net changes in the relative positions of the most qualified, while floor effects for occupational allocation among the least qualified should work against much change there. As in the case of demographic and cyclical effects discussed above, one could finally also argue about side effects of educational expansion and labour market professionalization on market entrants' risk of unemployment. To the extent that skill or credential requirements increase, unemployment risks might rise as well, notably of course among the least qualified so that the concentration of unemployment among this group should increase.

2.2 Institutional Labour Market Contexts and Changing Economic Conditions

Following the outline of some general mechanisms linking changing economic contexts to changing labour force outcomes of market entrants, comparative analysis not only provides the opportunity to test the hypotheses developed above but also an approach to explore whether the proposed relationships generally hold or whether particular institutional arrangements in labour markets might actually serve to attenuate (or exaggerate) the impact of changing economic context conditions on labour market entrants' initial career experiences.

At a fairly general level, previous research on education-to-work transitions has regularly contrasted two polar types of institutional arrangements in European labour markets, namely occupational labour market systems (OLM) versus internal labour market systems (ILM), where the former type of system is said to operate in countries with strongly vocationally oriented training like Germany, Austria, Denmark or the Netherlands (Müller and Shavit, 1998; Shavit and Müller, 2000, forthcoming; Hannan et al., 1999; Allmendinger, 1989; Kerckhoff, 1995, forthcoming; Marsden 1986, 1990; Marsden and Ryan, 1995; Maurice et al, 1986). Apart from the discussion of the role of education in either type of institutional labour market context, some observers have also commented on the implications of the rigidities present in the ideal-typical OLM context as compared to more flexible labour market structures (Blossfeld, 1992; Hannan et al., 1999). If the structure of external markets is more heavily segmented along occupational lines in the former systems, this by definition implies smaller substitution potentials across submarkets, which might slow down adaptation processes due to structural change (cf. DiPrete et al., 1997; Blossfeld, 1992). In terms of the concerns raised above, there are two implications with respect to the occupational attainment of market entrants and its responsiveness to particular economic changes: first, the detrimental effects of educational expansion should be attenuated in OLM systems as the occupationalized nature of job competition and available skills makes downward substitution processes less attractive. On the other hand, as labour force experience is a less valued resource in job competition in an OLM context, market entrants should be able to benefit to a relatively larger degree from the increasing availability of attractive professional employment positions.

The issue of flexible versus more regulated institutional labour market context might, moreover, also effect the relationship between aggregate economic conditions and market entrants' risk of unemployment. If, in general, more flexible employment regulation in (youth) labour markets allow the consequences of cyclical economic up- and downswings to have a stronger influence on workers, unemployment risks should cyclically fluctuate most strongly in the institutionally most flexible systems. This leads one to expect an interaction effect in terms of the magnitude of cyclical effects on market entrants' unemployment risks, which would contrast not only the fairly regulated labour markets of OLM, but also the strictly regulated Southern European labour markets to the relatively flexible ones in the so-called ILM systems (cf. Grubb and Wells, 1993; OECD, 1999; Hartog and Theeuwes, 1993 for overviews). The empirical analyses will now begin to explore these and the above issues in more detail.

3 Data and Methodology

Following the above introduction, this paper provides a set of comparative analyses of labour market entry in the countries of the European Union in the late 1980s and early to mid-1990s, focusing primarily on the impact of changing economic contexts on market entrants' transition outcomes. In these analyses, data for twelve European countries is used, drawing on the 1988-1997 European Community Labour Force Surveys.[2] This database provides standardised, cross-sectional information on labour force participation, unemployment and various aspects of employment compiled from EU member states' national Labour Force Surveys. The surveys themselves consist of large-scale national samples which are at least repeated annually, thus providing a unique database of repeated cross-sectional surveys of labour market behaviour and employment issues in EU countries (cf.

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[2] This data has kindly been provided by EUROSTAT, the Statistical Office of the European Union. Of course, EUROSTAT is neither responsible for the uses made of the data nor the views held by the author. The twelve countries chosen for analyses are Austria, Belgium, Denmark, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain and the United Kingdom. Luxembourg is excluded for reasons of small sample sizes giving unreliable results, while Finland and Sweden had to be excluded as occupational information is only provided in 1997. For the chosen set of countries, single annual observations were excluded due to breaks in (part of) the time series or other unreliabilities, mostly related to substantial changes in the coverage of current training activities or the coding of educational qualifications (France and the Netherlands before 1993 and 1992, respectively; Belgium, Denmark and Ireland in 1992). Data on Austria is only available since 1995, when that country joined the European Union.

EUROSTAT 1988, 1992, 1996, for extensive details on the database). The analyses themselves address the responsiveness of labour market outcomes for market entrants from four educational levels to changing economic context conditions over the last decade. Market entrants are defined as those individuals who left the education and training system within the last five years.[3] Educational levels are distinguished according to the International Standard Classification of Education (ISCED; UNESCO 1975), i.e.: ISCED levels 0-2 or having attained no more than lower secondary qualifications, ISCED level 3 or having attained upper secondary education, ISCED level 5 or having attained post-secondary or lower tertiary qualifications, and ISCED levels 6-7 or having attained full university or Ph.D. degrees.

Based on the ECLFS dataset, unemployment risks and occupational attainment are analyzed as two main aspects of early labour market attainment. With respect to employment and unemployment, the ECLFS database follows standard international ILO definitions (cf. ILO, 1990a), while occupations are classified according to the 2-digit ISCO-68 codes until 1991, while the ISCO-88 COM scheme at the 3-digit level is applied since 1992 (cf. ILO 1990b, EUROSTAT 1988, 1992, 1996). In the current paper, a small modification to the ILO concept of employment is applied: in an analysis of early labour market experiences and the transition from education to work, it appears unwarranted to include all individuals having worked for payment or profit without paying attention to any current participation in education and training, which might actually represent their primary status. Deviating from standard ILO procedures, all individuals participating in any kind of initial formal education and training are therefore excluded from the labour force.[4] After all, market entrants are thus defined as individuals having (intermittently, if only) completed their educational careers. For this group, labour market outcomes are investigated in terms of unemployment risks in early careers and initial occupational allocation, the latter being measured in terms of occupational status and the attainment of professional employment positions. Below, Overview 1 provides more specific details on the measurement of each concept.

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[3] As individual time of leaving education is unavailable in the database, the timing of market entry is proxied by typical graduation ages for the different levels and types of education as published by the OECD (1997).

[4] This rather open and imprecise formulation is meant to include participation in those regulated forms of training which might be considered in some way as 'initial', while excluding those types of part-time education which serve to enhance individual qualifications while already working. Attending university, upper secondary schools or dual-system types of training would be examples of the former; attending evening schools or firm-based training courses examples for the latter. Full details of coding are available from the author on request.

Overview 1	
Employment & Labour Force	Modified ILO international definition of employment / labour market participation (cf. ILO 1990a): participation in initial training considered as primary status
Unemployment	ILO international definition of unemployment (cf. ILO 1990a)
Occupational Status	ISEI international socio-economic index score (cf. Ganzeboom et al., 1992; 1996) matched at the level of 2-digit ISCO-68 (1988-1991) and 3-digit ISCO88-COM (1992-1997) occupational detail
Professional Employment	Professional occupation according to ISCO classification (cf. ILO 1990b): ISCO68, 2-digit: 1-21, 35, 40, 50 (ECLFS 1988-1991) ISCO88-COM, 2-digit: 11, 12, 21-33 (ECLFS 1992-1997) (e.g. teaching and scientific professionals, managers, architects, health professionals, technicians)

In the current analyses, these individual-level measures are complemented by a set of context factor measures, which are conceived of as including both *institutional variables* and *labour market context factors*. As introduced in the theoretical section above, the variable characterizing institutional labour market contexts amounts to a simple differentiation between the three country clusters discussed earlier: Austria, Denmark, Germany and the Netherlands are classified as OLM systems, the four Southern European countries Greece, Italy, Portugal and Spain are grouped together in another country cluster, while the remaining Northern European countries Belgium, France, Ireland, and the United Kingdom will be referred to as ILM systems. More interesting to the current paper are four macrolevel measures introduced, indexing the four types of structural changes in economic contexts identified in the theoretical reasoning above. Following the arguments made there, the analyses include (a) the demographic size of youth cohorts in terms of the youth-adult ratio in the labour force, i.e. the ratio of market entrants to experienced workers in the total labour force aged 15-59, following the sample specifications detailed above; (b) the aggregate unemployment rate in the total labour force aged 15-59, indexing aggregate economic conditions and business cycle fluctuations, (c) the extent of educational expansion as captured by the proportion of tertiary-level – i.e. ISCED 5-7 – qualified individuals in the total labour force, and (d) the extent of labour market professionalization as measured by the proportion of professional employment positions (as defined in Overview 1) among total employment.[5] All measures are based on estimates from the ECLFS database for 98 country level observations, i.e. 12 sample countries times 3-10 annual observations. The analyses themselves utilize within-country mean-centered values to characterize within-country changes in economic contexts; this type of centering allows us to separate genuine trend effects from level effects between countries.

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[5] The results to be reported below are qualitatively unaffected by replacing the first two indicators by employment growth and changes in entry cohort sizes.

Summarizing the theoretical discussion in operational terms, I expect the following effects for each of these for trend factors:

H1 *Business cycle effects*: Increasing unemployment rates lead to increasing risks of unemployment among labour market entrants. As relatively less competitive market participants, recent entrants to the market are disproportionally affected. This effect also interacts negatively with the individual level of qualifications, so that the lowest qualified are affected most strongly. Business cycle effects should, moreover, have the strongest impact on initial career outcomes in the most flexible ILM arrangements. Effects of cyclically increasing unemployment rates on occupational allocation are, finally, weak in general and theoretically indeterminate.

H2 *Demographic effects*: Parallel to H1 above, increasing youth cohort sizes are expected to imply increasing risks of unemployment, again potentially disproportionately affecting the least qualified school leavers. Effects on occupational allocation are weak and negative, if present.

H3 *Educational expansion effects*: Increasing levels of tertiary education in the labour force lead to a devaluation of qualifications in terms of occupational allocation. Due to downward substitution processes triggered, the strongest effects will be on occupational outcomes for tertiary level leavers. In the context of occupational labour markets, downward substitution tendencies should be attenuated. Effects of educational expansion on unemployment risks are potentially positive but small.

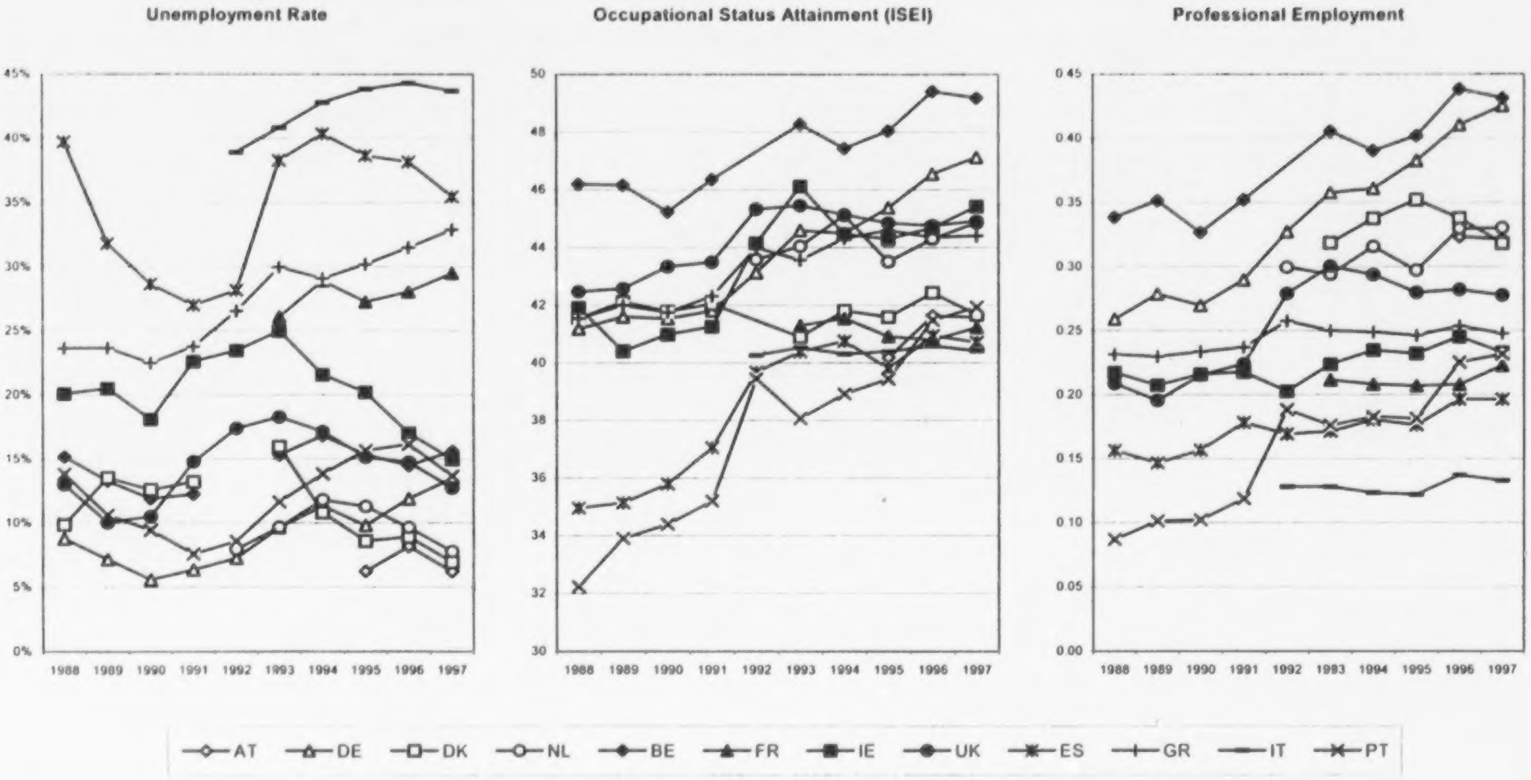
H4 *Professionalization effects*: Increasing availability of professional employment positions implies increasing levels of occupational attainment among market entrants, with the impact again being most relevant among tertiary level leavers. In the context of occupational labour markets, market entrants should be relatively more competitive and thus benefit relatively more from the increasing availability of professional employment. To the extent that skill requirements rise in the context of changing labour demand, unemployment risks among market entrants will increase, notably at the lower levels of qualifications.

Before providing tests of these hypotheses from multivariate models, the paper will first present descriptive evidence on trends in both early labour market outcomes and aggregate economic and labour market conditions over the last decade in the twelve EU countries under study. Their interrelations and the impact of changes in aggregate context conditions will then be assessed from comparative micro-macro models, controlling simultaneously for individual resources, institutional and economic context factors, and unobserved heterogeneity between countries and qualifications. This modelling strategy follows in a straightforward manner from the repeated cross-sectional research design of the database used (cf. Blalock, 1984; Judge et al., 1985; Greene, 1997; DiPrete/Grusky 1990a, 1990b) and the time-series cross-sectional structure of the data. More specifically, I estimate a set of panel data models applying Liang and Zeger's (1986; Diggle et al., 1994) GEE estimation approach which extends traditional generalized linear modelling based on cross-sectional data (cf. McCullagh and Nelders, 1989). Effectively, this represents a time-series analysis for the average labour force outcomes of market entrants from 48 educational backgrounds between 1988 and 1997. Compared to the alternative of estimating genuine multi-level models, the approach might be considered the more robust option of estimation in the case of a fairly small number of aggregate units of analysis, as the marginal estimation method does not require one to specify and estimate mixtures of distributions. In addition to the time-varying measures of economic context conditions, all estimated models control for the effects of levels of education and their interaction with the institutional labour market context (cf. Gangl, 2000b, for an extensive analysis of this aspect) and allow for a first-order autoregressive error structure. The calculation of standard errors and hypothesis tests is adjusted for the clustering on 48 educational groups. The dichotomous dependent variables of unemployment and attainment of professional employment are modelled by specifying a binomial distribution and a logit link function, occupational status is specified to follow a normal distribution with a logarithmic link function.

4 Trends in Transition Outcomes and Economic Contexts across Europe

As a first look at the data, Figure 1 below gives the evolution of aggregate labour market outcomes for market entrants in the twelve European countries between 1988 and 1997. In general, the trends exhibit marked cross-national variation, although less so with respect to changes in occupational allocation outcomes. With respect to both occupational status attainment and access to professional employment positions, the situation of employed market entrants improved in many if not most European countries over the decade, and certainly did not deteriorate in any country. Where occupational allocation outcomes improved, aggregate gains are often only moderate, but in some countries considerably increasing levels of occupational attainment are evident: average occupational status attainment increased markedly in Spain and Portugal, but also in Germany and Belgium. The results for access to professional employment are similar. Aggregate trends with respect to unemployment are less easily summarized. For most countries, there is evidence of strongly cyclical patterns in the evolution of market entrants' unemployment rates, with falling rates up to the early 1990s and from the mid- to late 1990s, while unemployment was on the rise over the early 1990s. There is substantial variation, however, in both the timing and the extent of swings observed. In most countries, unemployment rates rose by around 5 percentage points in the early 1990s, sometimes even more, with a time lag of about three years between Britain and Ireland on the one hand, and Spain and Portugal on the other. In many countries market entrants' unemployment rates declined again from around the mid-1990s, this being particularly marked in Ireland and Denmark. In contrast, unemployment rates in Italy, France, Greece and Germany had not even begun to decline by 1997.

Figure 1 Recent Trends in Transition Outcomes across Europe

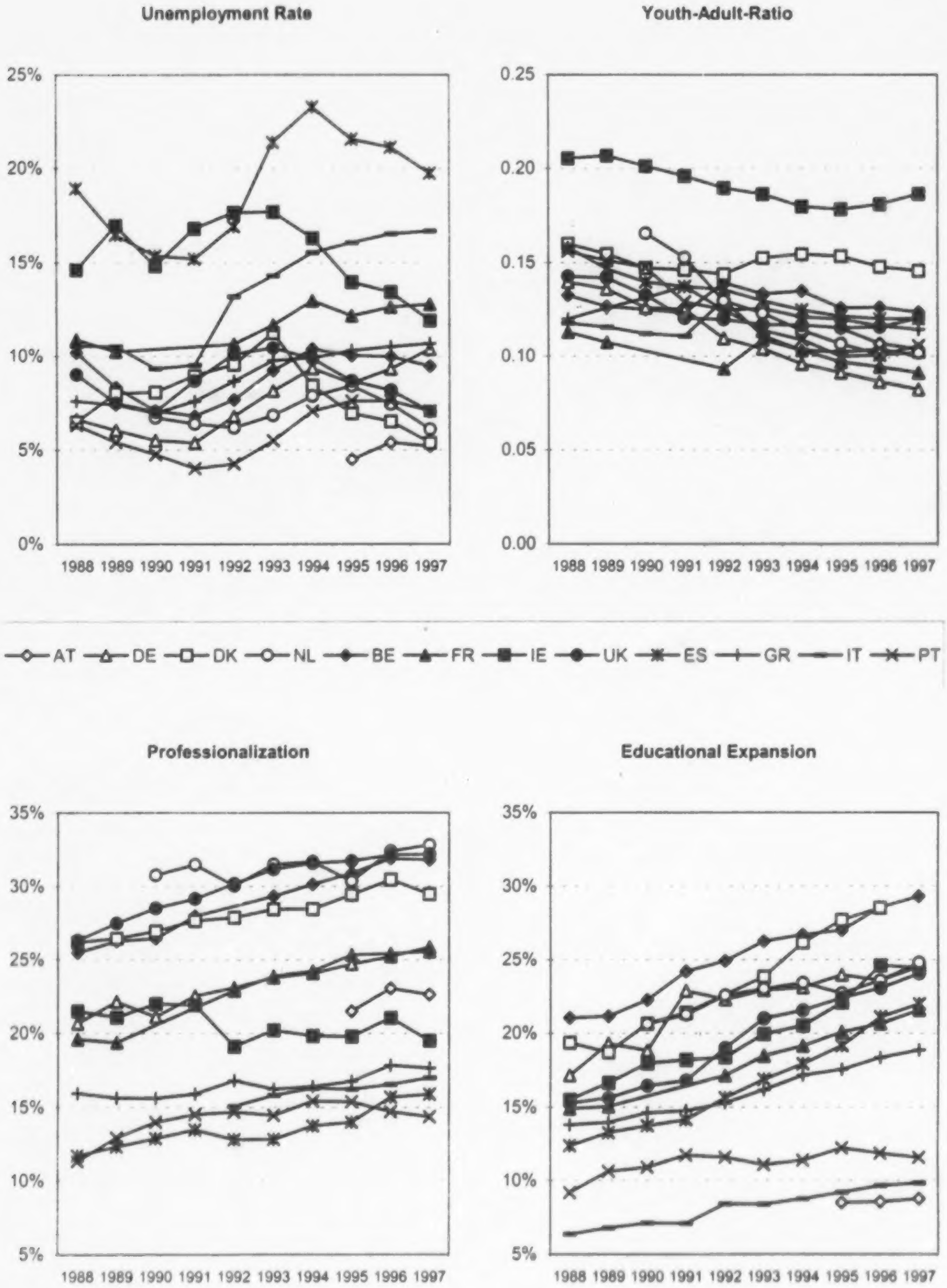


Sources:
European Community Labour Force Survey 1988-1997

These aggregate figures ignore important aspects of differentiation in labour market outcomes, be it in terms of qualifications, gender, social background or ethnicity. Disaggregated trends might look very different from the picture presented here, as improving economic conditions will not affect all individuals evenly and not all market entrants will be able to successfully participate in current economic restructuring towards a more professionalized labour force. Space limitations prevent us from pursuing these explorations further here, but it might be interesting to note that the breakdown by educational levels as provided in Gangl and Brauns (1999) indeed suggests more differentiated interpretations in this case: for example, it is apparent from their results that unemployment risks fluctuate mainly among the lowest qualified, while more educated market leavers were much less affected by cyclical up- and downswings. In contrast, hardly any changes were observed in the case of occupational allocation by educational level, except for declining occupational returns to higher education in a few countries. That is, rising average levels of occupational attainment reflect compositional effects, sometimes even occurring in combination with slightly decreasing microlevel returns to education. More differentiated answers than the simple macrolevel information provided will also come from the multivariate analyses in the next section; however, for the moment, I turn to describe the main aggregate trends in the total labour force.

At face value, the trends described for market entrants' unemployment outcomes and occupational allocation patterns seem to fit quite well with the general trends in European labour markets as depicted in Figure 2. Ignoring for the moment level differences between the countries and some country differences in the timing of the economic recession in the early 1990s, the major trends in labour market conditions have been surprisingly similar over the past decade across EU countries. In all countries, youth cohort sizes declined both in relative terms as represented by the market entrants-to-adult workers ratio and, at least in most countries, also in absolute numbers. Similarly, the proportion of tertiary level qualifications in the labour force expanded in most countries over the decade, in many cases by as much as 5-10 percentage points. Almost the same figure applies to the case of increasing professionalization of the labour force, where increases by about 5 percentage points over the decade are common, at least among Northern European countries. The growth of professional employment has been slower in Southern Europe and also in Ireland. Ireland, by the way, stands apart from the rest of Europe in other respects also, namely it has the highest youth-adult ratio among the twelve countries and by far the most positive developments in terms of aggregate unemployment levels since the early 1990s.

Figure 2 **Recent Changes in Economic Context Conditions across Europe**



Sources:
European Community Labour Force Survey 1988-1997

In terms of labour market trends, the largest cross-national variation is arguably in the changes in the unemployment rate over the decade, notably in the timing of the recession in the 1990s and the timing and extent of the economic upswing afterwards. Britain and Ireland were the first to experience rising unemployment rates from around 1990, while for countries like Portugal, Spain or even the Netherlands, recessionary trends only started in 1993. Of course, the extent of this recessionary downswing varied greatly – as did the economic resurgence of the mid-1990s. Since then, the economic climate has improved markedly in countries like Ireland, Denmark, and the United Kingdom, while other major European economies like France, Germany and Italy have experienced greater recovery difficulties. Without describing these trends any further, the main results for the last decade may be summarized as fairly global trends of declining youth cohort sizes, increasing expansion of third level education and an increasing professionalization of the labour force. These broad trends have occurred in conjunction with an aggregate economic climate which, in general, was relatively favourable in the late 1980s and late 1990s, yet less so during the early to mid-1990s. In addition, cross-national variation in the changes in aggregate unemployment rates was substantially more marked than any of the other three trends. How these changes in economic context conditions have affected young peoples' labour market outcomes is detailed in the following section which reports estimation results based on panel data modelling.

5 Economic Context Effects in Micro-Macro Models of Labour Market Entry

Successful labour market entry very much depends on individual qualifications, individual social background, personal and institutional networks to particular employers and the presence of particular gender or ethnic life course stratification patterns. But, as evident from the estimated multivariate models, changes in economic context conditions exerted important direct impacts on the smoothness of education-to-work transitions in the 12 European countries over the past decade. Tables 1 to 3 provide the necessary details on the estimation results: Table 1 contains the main estimation results, Table 2 presents selected statistics based on predicted probabilities and finally, Table 3 presents results from detailed statistical tests for interaction effects between context conditions and level of education, respectively type of institutional labour market context. In the presentation, the discussion of results will be restricted to the issue of changing economic context conditions, at the expense of the microlevel educational effects and their interaction with institutional labour market contexts which are simultaneously estimated in the models (but cf. Gangl, 2000b for a thorough analysis). It might be sufficient to note the standard results of a negative relationship between level of education and unemployment risks and a positive relationship between education and occupational attainment. In addition, educational effects are, in general, found to be slightly more pronounced in OLM contexts as compared to the set of ILM countries. Finally, Southern Europe deviates sharply from the Northern

European countries by absence of educational differentiation with respect to unemployment.[6] I now turn, however, to the original focus of the analyses and discuss the effects of different types of changes in economic context conditions on market entrants' early career experiences.

5.1 Aggregate Economic Conditions and Youth Cohort Sizes

I begin the discussion of results with the two "quantity" aspects of supply and demand, namely the state of the business cycle and the demographic relation between market entrants and adult workers in the labour force. According to the estimates given in Table 1, there is ample evidence of the expected strong positive cyclical effects on market entrants' unemployment risks, which is hardly sensitive to the particular model specification adopted. In contrast, there are no substantial cyclical effects on patterns of occupational allocation, neither in terms of the main or interaction effects. What is interesting with respect to the effects on unemployment, however, is the additional evidence on interaction effects. First, it should be noted that the inherent non-linearity of the logit probability model itself implies varying effect sizes in terms of absolute probabilities. A linear main effect on the logit of unemployment translates into relatively small effects on the probability of interest in both tails of the distribution (i.e. at very high and at very low unemployment rates), while probability effects reach a maximum at $p = .5$. Hence, even model M1, which includes only the main effect, predicts that absolute unemployment rates vary more strongly among the high-risk lowest qualified than among the low-risk tertiary level leavers. But even if relying on the relative risk interpretation of the model, interaction effects apart from model non-linearity are apparent. Tertiary level leavers, notably leavers from lower tertiary education, are less affected by cyclical changes in aggregate economic conditions (β=0.091-0.054=0.037 and 0.091-0.004=0.087, respectively) than leavers from upper secondary education (β=0.112) and even more markedly than those leaving from lower secondary education (β=0.091-(0.021-0.054-0.004)=0.128). The experiences of entering the labour market of that latter group are clearly very responsive to the current economic climate. Given the non-linearities of the logit model and the presence of interaction effects, their combined effect on young people's unemployment risks is probably best illustrated by considering the examples of predicted probabilities given in Table 2. The first row in the results section on unemployment shows that an increase in the aggregate unemployment rate of 1% implies an expected increase of unemployment risks among the lowest qualified market entrants by 3%, while the respective figures among tertiary level leavers are 0.5% and 1.1% only.[7] Despite the small number of aggregate units of analysis, most of these reported differences also turn out to be statistically significant at conventional levels of significance according to the Wald test calculations reported in Table 3.

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[6] Full estimation results are available from the author on request.

[7] The reader is reminded of the population-averaged interpretation of estimated effects. That is, the inference is to the population-average difference in unemployment levels at varying context conditions. If anything, population-averaged effects ultimately are a lower bound to the individual-level effect estimates.

Table 1 **Economic Context Effects on Labour Market Entry Outcomes, GEE Estimation**

	Unemployment				Occupational Status Attainment				Professional Employment			
	M1	M2a	M2b	M3	M1	M2a	M2b	M3	M1	M2a	M2b	M3
Business Cycle	0.112*	0.091*	0.128*	0.107*	0.001	0.001	0.000	0.001	0.010	0.015	0.006	0.009
Business Cycle x ISCED 3		0.021*		0.014		0.000		0.000		-0.009		-0.006
Business Cycle x ISCED 5		-0.054*		-0.049*		-0.003		-0.003		-0.010		-0.010
Business Cycle x ISCED 6/7		-0.004		-0.001		0.002		0.001		-0.005		-0.002
Business Cycle x OLM Systems			0.020	0.015			-0.002	-0.002			-0.019	-0.015
Business Cycle x Southern Systems			-0.033*	-0.031*			0.001	0.001			0.006	0.005
Youth-Adult Ratio	0.001	-0.003	-0.003	-0.005*	0.001*	0.001*	0.001	0.001	0.002	0.001	0.003	0.002
Youth-Adult Ratio x ISCED 3		0.000		-0.001		0.000		0.000		-0.006*		-0.006*
Youth-Adult Ratio x ISCED 5		-0.013*		-0.010*		0.001		0.001		0.005		0.004
Youth-Adult Ratio x ISCED 6/7		0.005		0.005		0.000		0.000		0.007*		0.007*
Youth-Adult Ratio x OLM Systems			-0.002	-0.001			0.000	0.000			-0.003	-0.003
Youth-Adult Ratio x Southern Systems			0.006*	0.005*			0.000	0.000			0.002	0.003
Educational Expansion	0.017	0.020	0.024*	0.028*	-0.005*	-0.005*	-0.007*	-0.007*	-0.041*	-0.043*	-0.052*	-0.053*
Educational Expansion x ISCED 3		-0.001		-0.006		-0.004		-0.003		-0.004		-0.008
Educational Expansion x ISCED 5		0.025		0.031		-0.001		-0.001		-0.031		-0.025
Educational Expansion x ISCED 6/7		-0.021		-0.017		0.000		0.000		0.015		0.018
Educational Expansion x OLM Systems			0.005	0.000			0.001	0.001			0.011	0.011
Educational Exp. x Southern Systems			-0.023*	-0.018			-0.004	-0.004			-0.023	-0.023
Professionalization	0.013	-0.021	-0.008	-0.036	0.010*	0.008*	0.011*	0.009*	0.054*	0.049*	0.071*	0.065*
Professionalization x ISCED 3		-0.012		-0.016		0.002		0.002		-0.029		-0.036
Professionalization x ISCED 5		-0.088		-0.083		0.001		0.000		0.070		0.071
Professionalization x ISCED 6/7		0.020		0.020		0.005		0.005		0.024		0.019
Professionalization x OLM Systems			-0.016	-0.003			0.008	0.008			0.029	0.032
Professionalization x Southern Systems			0.004	-0.006			-0.001	-0.001			0.019	0.019
$\rho_{AR(1)}$	0.93	0.95	0.94	0.95	0.90	0.90	0.92	0.92	0.89	0.90	0.90	0.91
Wald Test / χ^2 (df = 15, 27, 23, 35)	1,205	5,952	2,898	43,820	2,705	5,300	5,252	61,178	12,983	26,153	11,436	26,143

Notes: N = 386 annual observations for 48 educational groups from 12 countries; statistical significance at $^{*}p<.05$; all variables are entered effect-coded and mean-centered; equations for occupational status attainment include country-level dummy variables for the years 1992-1997; all models include an education main effect and interaction effects between education and institutional system, which have been omitted for presentation; all model Wald tests are statistically significant at p<.01.

Source: European Community Labour Force Survey 1988-1997

Table 2 **Effect Predictions of Changing Economic Contexts**

	At grand mean	By Education				Institutional System x Trend Interaction Effects		
		ISCED 0-2	ISCED 3	ISCED 5	ISCED 6/7	ILM	OLM	South
Unemployment Rate								
Average Prediction	0.154	0.286	0.194	0.086	0.107	0.154	0.154	0.154
Labour Market Trends (Unit effects)								
Business Cycle	+0.014	+0.030	+0.020	+0.005	+0.011	+0.017	+0.017	+0.010
Youth-Adult Ratio	-0.001	+0.000	-0.001	-0.001	+0.000	-0.001	-0.001	+0.000
Educational Expansion	+0.004	+0.004	+0.003	+0.005	+0.001	+0.006	+0.004	+0.001
Professionalization	-0.005	+0.009	-0.008	-0.009	-0.002	-0.003	-0.005	-0.005
Occupational Status Attainment								
Average Prediction	49.84	36.18	43.62	56.86	68.79	49.84	49.84	49.84
Labour Market Trends (Unit effects)								
Business Cycle	+0.03	+0.09	+0.01	-0.15	+0.14	+0.06	-0.06	+0.08
Youth-Adult Ratio	+0.03	+0.00	+0.01	+0.08	+0.02	+0.02	+0.02	+0.04
Educational Expansion	-0.34	-0.10	-0.44	-0.42	-0.45	-0.19	-0.28	-0.54
Professionalization	+0.45	+0.07	+0.48	+0.54	+0.95	+0.09	+0.85	+0.41
Probability of Professional Employment								
Average Prediction	0.226	0.039	0.102	0.417	0.684	0.226	0.226	0.226
Labour Market Trends (Unit effects)								
Business Cycle	+0.002	+0.001	+0.000	+0.000	+0.001	+0.003	-0.001	+0.002
Youth-Adult Ratio	+0.000	+0.000	+0.000	+0.002	+0.002	+0.000	+0.000	+0.001
Educational Expansion	-0.009	-0.001	-0.005	-0.019	-0.008	-0.007	-0.007	-0.013
Professionalization	+0.012	+0.000	+0.003	+0.034	+0.018	+0.003	+0.017	+0.015

Notes: discrete change and unit effects based on estimated parameters of GEE models (cf. cols. M3 of Table 1), evaluated at the mean of covariates

Table 3 Wald Tests on Interaction Effects

Unemployment

ISCED	0-2	3	5	6/7
0-2	bcyc	**	**	-
3	-		-	-
5	**	**		-
6/7	**	-	**	yadrt

ISCED	0-2	3	5	6/7
0-2	edx	**	**	*
3	-		-	-
5	-	-		-
6/7	-	-	-	occ

Systems	ILM	OLM	South
ILM	bcyc	-	**
OLM	-		-
South	**	**	yadrt

Systems	ILM	OLM	South
ILM	edx	-	-
OLM	-		-
South	**	-	occ

Occupational Status Attainment

ISCED	0-2	3	5	6/7
0-2	bcyc	-	-	-
3	-		-	-
5	-	-		-
6/7	-	-	*	yadrt

ISCED	0-2	3	5	6/7
0-2	edx	**	-	*
3	-		-	-
5	-	-		-
6/7	-	-	-	occ

Systems	ILM	OLM	South
ILM	bcyc	-	-
OLM	-		-
South	-	-	yadrt

Systems	ILM	OLM	South
ILM	edx	**	-
OLM	-		-
South	-	-	occ

Professional Employment

ISCED	0-2	3	5	6/7
0-2	bcyc	-	-	**
3	-		*	-
5	-	-		**
6/7	-	-	-	yadrt

ISCED	0-2	3	5	6/7
0-2	edx	-	**	-
3	-		*	-
5	-	-		-
6/7	-	-	-	occ

Systems	ILM	OLM	South
ILM	bcyc	-	-
OLM	-		-
South	-	*	yadrt

Systems	ILM	OLM	South
ILM	edx	-	-
OLM	-		-
South	-	*	occ

Notes: bcyc – business cycle; yadrt – youth-adult ratio; edx – educational expansion; occ – professionalization; significance levels ** p<.05 and * p<.10; all tests based on models M3 of Table 1.

In addition to this interaction between education and the impact of cyclical changes, there is an indication of a somewhat smaller cyclical responsiveness of market entrants' unemployment in Southern Europe. The respective statistical tests all pass significance levels of p<.05 (cf. Tables 1 and 3), and the predicted probability at the grand mean provided in Table 2 implies an effect of only about half the size of that in Northern Europe. Given this contrast with both the ILM and OLM types of

Northern European countries, it seems unlikely that this effect can be interpreted as a relatively more stringent protection in early careers due to strict employment legislation in the South. In conjunction with the regularly exceedingly high levels of youth unemployment in Southern countries, one might rather assume that cyclical unemployment patterns are of a different nature. If cyclical unemployment in the South were less concentrated among the least experienced in the work force as compared to Northern countries, this would also be consistent with the established interaction effect.

Given these rich results on the impact of aggregate economic conditions on market entrants' initial labour force outcomes, the absence of any demographic effects may appear strange. There is no evidence that declining youth-adult ratios contributed to an easing of transitions into working life over the past decade, neither in terms of unemployment nor with respect to occupational allocation. In all estimated models, the effects of this factor are weak, only rarely reach statistical significance, and if so, are (at least for Northern European countries) associated with an unexpected negative sign with respect to unemployment. In sum, the evidence on demographic effects of changing youth cohort sizes is far from compelling. For much of the recent decade, changes in the incidence of unemployment in the transition period stemmed from changing aggregate economic conditions rather than from changes in demographic conditions.

5.2 Educational Expansion and Occupational Professionalization

While changing aggregate economic conditions have been the driving force behind changing unemployment risks, educational expansion and professionalization trends have had a similar role with respect to changing patterns of occupational allocation. Both types of changes consistently show the expected and counteracting effects on market entrants' initial occupational attainment, both in terms of occupational status and in terms of access to professional employment positions. In all models of occupational attainment, there is a negative effect of educational expansion, accompanied by an offsetting positive effect of professionalization tendencies of roughly similar size. Evaluated at the grand mean of the sample of educational groups, an increase in the proportion of tertiary level graduates in the labour force is estimated to imply a –0.34 status point score reduction and a –0.9% reduction in the probability of professional employment on average (cf. Table 2). By the same token, a 1% increase in the proportion of professional positions results in an average increase of 0.45 status point score and a +1.2% increase in the probability of professional employment, respectively. That is, and further qualifications notwithstanding, ongoing educational expansion at the tertiary level has triggered downward substitution processes among market entrants, leading more better qualified leavers to take employment in lower-level occupations than in earlier times. But on the other hand, this trend may be offset by an increasing availability of more attractive professional employment positions. As long as both changes occur more or less in parallel, the aggregate attainment outcomes among market entrants will effectively be little changed.

These general interpretations do need some additional qualifications, however, and more so with respect to the effects of a professionalizing labour market rather than with respect to the impact of educational expansion. In the latter case, the absolute predictions of Table 2 reveal the presence of floor effects, so that the occupational attainment of the least qualified is little affected by educational expansion. The detrimental impact on microlevel returns to education is, however, evident for ISCED levels 3 to 7 in the case of status attainment and among tertiary level leavers with respect to access to professional employment positions. It should be noted that the argument is based on effects on absolute status scores and probabilities, rather than interaction terms in the non-linear models, which show no statistically significant results from Wald tests. In addition, there are some indications that expansion-induced downward substitution occurred more rapidly in Southern Europe as compared to the experiences in Northern European systems, notably at the level of professional positions. Whether this is related to some stable institutional feature of the Southern systems or simply represents catching-up phenomena cannot be decided on the basis of the current data. It should also be noted that there is also some evidence of educational expansion having small effects on initial unemployment risks. This effect, implying slightly rising unemployment risks mostly at the non-tertiary level and more strongly in Northern Europe, might indicate a trend towards outcompeting the least qualified. Compared to the cyclical movements, the effect is small, however, and apparently not very clearly identified.

Even more interesting is to trace the nature of the effects of professionalization, which actually represents the least uniform trend effect to be discussed in this paper. With respect to the interaction with levels of education, the findings closely parallel those reported for educational expansion. The least qualified do not benefit from the increased availability of professional employment, neither in terms of direct access nor indirectly in terms of more advantageous status attainment patterns due to upward substitution. Rather, it is primarily tertiary level leavers who strongly participate in professionalization trends in the labour force. A 1% increase in the proportion of professional positions results in an about one status point score increase and an almost 2% increase in the probability of professional employment for university graduates. Leavers from both upper secondary and lower tertiary levels are estimated to benefit somewhat less, yet still substantially in terms of status attainment, and direct access to such positions increases even disproportionately more among lower tertiary leavers. Close to the expectations formed in the theoretical part of the paper, there are also some indications that market entrants in the OLM context are able to benefit from this occupational upgrading in labour demand to a systematically larger extent than notably their counterparts in ILM countries. Evaluated at the grand mean, the unit effect for professionalization tendencies amounts to +0.85 status point score and a +1.7% increase in the probability of access to professional positions as compared to the respective figures of +0.09 and +0.3% in ILM systems. Even more compelling given the small sample of aggregate units, this interaction effect even reaches or barely misses a statistical significance level of p<.10 in the Wald tests provided in Table 2. The Southern systems are at an intermediate position between OLM and ILM contexts in that respect. Hence, the argument that OLM contexts tend to integrate market entrants more quickly into "regular" employment contexts appears to receive additional support, as market entrants in these systems participate most readily in and clearly benefit from current labour market changes.

In contrast to educational expansion, professionalization trends also exhibit important side effects on market entrants' unemployment risks. While the main effect is fairly similar in magnitude to the relatively small effect for educational expansion, this actually conceals an important interaction with level of education: most dramatically, ongoing professionalization appears to increasingly drive a wedge between the unemployment risks of market entrants with compulsory schooling only and those with more advanced qualifications. While unemployment risks for ISCED levels 3 to 7 decrease or are at least little affected by increased professionalization, unemployment among the least qualified is estimated to increase substantially. A 1% increase in the proportion in professional employment results in an additional relative disadvantage of the least qualified with increases in relative unemployment rates of +1.1% to +1.8%. Moreover, there is no evidence that professionalization effects on unemployment differ across institutional contexts.

6 Summary and Conclusions

Understanding changing labour force outcomes for those entering the labour market is an important element in understanding the nature of education-to-work transitions and the consequences of structural opportunities and constraints on their outcomes. Over the last decade, entering the labour market was increasingly perceived to be associated with rising unemployment risks and often less certain and lower-level occupational attainment than in previous times. Descriptively, both perceptions accurately reflect both rising unemployment rates among leavers from all educational levels in all European countries, notably at the lowest levels of qualifications, and somewhat declining initial occupational returns to education, notably at the tertiary level of education in many European countries. The analyses of the current paper show, however, that these changes can convincingly be related to the influences of changing aggregate economic conditions on the one hand, and the effects of continued educational expansion and structural changes in the labour market on the other.

Increasing unemployment risks among market entrants are most directly related to the (cyclical) deterioration of aggregate economic conditions in Europe from the early 1990s onwards. That is, market entrants unemployment rose over the 1990s as compared to the situation of the late 1980s, very much in line with the general rise of unemployment, and it began to fall again in those countries that experienced economic upswings by the mid- or late 1990s. In assessing these trends, it has also to be recognized that young people are generally affected disproportionately by such cyclical developments, as they are among the less competitive members of the work force. In particular, the unemployment risks of market entrants with low levels of education prove to be very vulnerable to changing economic conditions. In contrast, declining youth cohort sizes have not affected market entry outcomes in the current sample.

While youth's unemployment risks were much affected by changes in the aggregate economic climate, ongoing structural changes in both labour supply and labour demand are found to have had a strong impact on changing patterns of occupational allocation among market entrants. More specifically, increasing levels of education in the labour force have triggered downward substitution processes, which led to decreasing levels of occupational attainment among market entrants. This has affected leavers from all educational levels, except for the least qualified where floor effects can be thought to operate. The impact of these downward substitution processes was particularly evident in the case of access to professional employment positions, where employment prospects of leavers from lower tertiary education were affected decidedly more negatively than those of university graduates. In part, such downward substitution tendencies were, however, offset by professionalization tendencies in labour demand. Leavers from tertiary level education have in general been able to benefit from the increasing availability of highly-skilled professional positions so that often only small net changes in occupational attainment have occurred. In line with institutional arguments about strong occupational labour markets, market entrants in OLM system countries have profited more strongly from such labour market changes than has been the case in the more flexible ILM systems. Still, the major implication of the operation of two such counteracting structural mechanisms is that further net changes will occur as soon as developments happen in less balanced ways than has been the case in many European countries over the last decade.

But how are the chances for such detrimental, less balanced structural changes to actually occur? Empirically, the correlation between both measures has been very high in Europe over the last decade (cf. Table 4 below). That is, in countries with a large proportion of tertiary graduates in the labour force, there was typically also a large proportion of highly-skilled professional employment positions. The more interesting point is presented by the lagged correlation coefficients given in Table 4, which show increasing correlations with current occupational structure the more distant in time the measure of qualificational structures. This might be interpreted as a way in which educational expansion acts to catalyze subsequent changes in labour market demand, which employ the increased availability of highly skilled individuals. In this interpretation, structural changes in the labour market are intimately linked, with educational expansion inducing further, but time-lagged labour force changes. Seen that way, educational expansion becomes less of a mere credentialist trend but more of a powerful political tool which triggered huge productivity increases, and declining individual level returns to education might actually be considered as a relatively transitory phenomenon accompanying a certain adjustment period until labour demand has also shifted. Suggestive as this is, it seems to be of utmost importance to arrive at a better understanding of precisely that nexus in order to gain a more robust interpretation of results of overeducation and declining returns to education.

Table 4 Educational Expansion and Labour Force Professionalization, Bivariate Correlations

	% Tertiary Degrees					
% Professional Employment 1997	1997	1996	1995	1994	1993	1992
(1) n = 11	0.744	0.725	0.768	0.810	0.825	-
(2) n = 8	0.659	0.628	0.690	0.748	0.767	0.770

Notes: (1) excluding Austria, and (2) excluding Austria, Belgium, Denmark and France
Source: European Community Labour Force Survey 1988-1997

More disconcerting than the above tendencies is the established impact of labour force professionalization on market entrants unemployment risks. Here it seems that the changing nature of labour demand tends to drive a wedge between the unemployment risks of the least qualified leavers and those with more advanced levels of education. While unemployment risks among the latter educational groups were unaffected or even declined with ongoing professionalization trends, unemployment rose sharply in relation to professionalization among those with compulsory education only. It is the group of the least qualified that appears to be increasingly less able to secure employment in rapidly changing labour markets. If that finding were to be substantiated in further research, the implication would be to invest heavily into the training of the least qualified so as to enable them to meet the qualification requirements of increasingly modernizing economies.

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WORKING PAPERS

The Transition from School to Work in Southern Europe: the Cases of Italy and Spain

Cristina Iannelli
Centre for Educational Sociology (CES), Edinburgh
e-mail: iannelli@des.education.ed.ac.uk

Asunción Soro-Bonmatí
Mannheim Centre for European Social Research (MZES)

1. Introduction

European countries largely differ in their educational and labour market system as well as in the way these institutional settings influence youth transitions. As pointed out in Hannan et al. (1999) "(macro) national institutional differences in educational and training systems, and their varying corresponding relationships to labour market entry processes, constitute some of the most important influences on individual (micro) level transitions" (p.1).

In an attempt to classify different school-to-work transition patterns, Hannan et al. (1999) distinguish two ideal types of model: the German "dual system" model and the Irish-British "open market" model. The former is characterised by strong links between education/training and the labour market, so that individuals' entry into the labour market is mainly governed by the possession of specific educational qualifications or training. The latter is defined as an open market model with much weaker links between education, training and the labour market and consequently less channelled school-to-work transitions. These ideal types are the extreme cases of a continuum along which other countries can be placed. The authors, however, recognise that neither of these two models adequately conceptualises the Southern European systems.

Another attempt has been made in Gangl (2000). The author tries to cluster twelve European countries according to Marsden´s (1990) distinction between Internal Labour Markets (ILM) and Occupational Labour Markets (OLM). In his analysis, he acknowledges that Southern European countries cannot be adequately classified using Marsden´s criteria. Thus, he proposes to treat Italy, Portugal and Greece as a separate cluster (Southern European systems) and to include Spain among the Internal Labour Markets countries.[1] This classification of the Mediterranean countries is not completely satisfactory either. There are similarities between Spain and the other Southern European countries but also differences within Southern European systems which are not taken into account.

As is well known, Southern European countries have peculiarities which make them very different from the Northern European countries (EC, 1997): high unemployment rates, no clear evidence of high occupational returns to the higher levels of education for young people, more informal training and less structured relationships between education and the labour market, a greater predominance of informal economic activity and less welfare state provision specifically addressed to young people, which is compensated for by a more active role of family networks.

However, they differ from each other in some important aspects. Thus, Spain differs from the other Southern European countries in the higher mobility that young people experience at the beginning of their occupational career, while in Portugal they suffer much lower risk of unemployment than in the other Southern European countries.

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[1] As in other ILM countries, the youth labour market in Spain is characterised by a long waiting period before entering the first job and a high mobility in early job careers (due to the high incidence of fixed-term contracts).

The aim of this paper is to investigate the differences and similarities in the school-to-work transition patterns in Italy and Spain and the institutional characteristics (education, labour market and family) from which they originate. Focusing on these two countries allows us to analyse in greater detail the mechanisms that make so peculiar the school-to-work transition in Southern Europe.

The paper is organised as follows. Section 2 presents some stylised differences in educational and labour market outcomes between Northern and Southern European countries. Section 3 discusses the differences and similarities in the educational and labour market characteristics and the role of family versus the welfare state within Southern Europe. Section 4 introduces the main questions that will be investigated. Section 5 describes the micro data sets used, the variables and the methodology followed. Section 6 provides some descriptive statistics. Sections 7-9 present the results of the multivariate analyses which address the questions presented in section 4. Section 10 concludes with a summary of the main findings and some final comments.

2. Differences between Northern and Southern Europe

In order to offer a snapshot of these Northern-Southern differences, we have selected two countries with which to compare Italy and Spain: Germany and UK. These two countries have been chosen because they differ quite substantially from Italy and Spain in their educational characteristics (especially Germany) and in their labour market characteristics (especially UK): the "dual system" in Germany and the deregulated labour market in UK make these two countries particularly interesting in comparative terms.

We use aggregate data from the ECLFS,[2] following its harmonised classifications of education and labour market status (which are based on ISCED and ILO), to present a general description of educational and labour market outcomes of young people in Northern and Southern Europe.

The data on educational attainment show that in the four countries young generations are better educated than their adult counterparts (table 2.1). However, over time the increase in educational attainment has been strongest in Spain and Italy:[3] in both countries the percentage of young people (aged 25-29) with lower secondary is almost half of the corresponding percentage of the oldest ones (aged 55-59). Moreover, in Spain the proportion of individuals with upper-secondary and tertiary education is four times higher for those aged 25-29 than for those aged 55-59. In Italy the proportion of people with upper-secondary diploma has tripled but the percentage of university graduates has increased only very slightly (see next section).

In general, the comparison of any of the labour market indicators chosen shows (see tables 2.2-2.7) that there are larger differences between young people and adults in Italy and Spain than in Germany and the UK. Moreover, across countries differences are strongest among young people than among adults.[4] It is on these country differences in young people's labour market status that we now concentrate our attention.

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[2] For details on how harmonised variables are obtained from each national Labour Force Survey, see EUROSTAT (1996).

[3] This is partially a natural outcome given that the older generations in Germany and the UK had already achieved higher levels of educational attainment.

Country comparison of activity and employment rates (see tables 2.2 and 2.3) shows that the proportions of young people (both men and women) who are active or employed are much lower in Southern than in Northern countries. Moreover, the unemployment rates (see table 2.4) among the young males are about three times higher in Southern Europe (30% in Italy and 36% in Spain, against 10% in Germany or 17% in the UK). The differences are even stronger for young females, who have between four and five times higher unemployment rates in the South. The percentage of young people unemployed for more than twelve months (see table 2.5) is much higher in Spain (36% for males, 49% for females), and especially in Italy (61% for males, 65% for females), than in Germany and the UK (where the long-term unemployed, on average, amount to 25%).

Another important aspect to be considered in studying youth labour market outcomes is the type of jobs which young people enter. The number of part-time employed among the young males is much higher in Northern than in Southern countries (see table 2.6). As far as females are concerned, data show in general higher proportions of part-time contracts than for males in all countries and age groups.[5] The proportion of temporary jobs among the employees is much higher in Spain than in the rest of the countries (see table 2.7). Instead, the percentage of temporary jobs among those 15-24 is relatively low in Italy and the UK (15% and 10%, respectively). In Germany, this figure is relatively high (around 50% for males and 40% for females). The explanation for these latter numbers is that, in Germany, the majority of the temporary jobs are related to a period of training (80% of the 15-24 temporary employees declare as the main reason for working on a temporary basis as being in a period of training).[6]

The evidence provided in this section indicates three main country differences. First, young people in Italy and Spain have lower activity and employment rates, but higher unemployment rates, than Germany and UK. Second, the employment and unemployment characteristics of young people differ between Northern and Southern European countries: unemployment duration is longer for young people in Spain, and especially in Italy than in Germany and the UK; the proportion of young people with part-time jobs is higher in Germany and the UK than in Italy and Spain. Third, there are less clear-cut differences between Northern and Southern Europe in the percentage of young people with temporary jobs: Spain shows the highest rates followed by Germany, Italy and the UK.

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[4] Adult men show very similar labour market outcomes in the four countries. However, this does not apply to adult women: a much lower proportion of adult women in Italy and Spain are active or employed while a much higher proportion of them are unemployed (and long-term unemployed) than in Germany or UK.

[5] However, it is remarkable the fact that in Northern countries females aged 25-64 show much higher proportions of part-time jobs than their 15-24 counterparts, while in Southern countries the difference across age groups is small.

[6] Our estimations based on ECLFS.

To conclude, the data provided in this section confirm that, as expected, the Italian and Spanish labour markets have peculiarities that make them different from their German and British counterparts. However, our evidence also points out that there are differences within Southern Europe. The next section is devoted to compare the institutions which are likely to be responsible for the differences and similarities found in Italy and Spain.

3. Differences and Similarities within Southern Europe

This section discusses the differences and similarities between Italy and Spain in the educational and labour market characteristics and the role of the family versus the welfare state.

3.1. Educational characteristics

The Italian and Spanish educational systems[7] can be classified as systems with a high degree of standardisation and a medium degree of stratification (Allmendinger, 1989; Müller and Shavit, 1998; Hannan et al., 1999): a common system of curricula, certifications and examinations is decided at central national level and uniformly applied at the local level and the upper secondary level is differentiated into tracks (academic and vocational), although the content of vocational education is quite general, so that the degree of stratification is medium.

In both the Italian and Spanish upper-secondary schools, there is a high degree of rigidity manifested in the difficulty of changing educational decisions when a certain academic route is taken (Gambetta, 1987) and in the very inflexible curriculum (which means that pupils, having entered a particular track cannot choose which subjects they want to study). [8] The distribution of pupils in various upper-secondary tracks differs in the two countries: compared to Spain the proportion of students entering academic tracks is much lower[9] and the drop-out rates in the vocationally oriented tracks are higher in Italy. These two indicators suggest that there is a higher degree of selectivity at the upper-secondary level in Italy than in Spain.

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[7] In the last years both the Spanish and the Italian educational systems have undergone a series of reforms. The major reforms in Spain are the results of the LOGSE (1990), which has increased by two years the age of compulsory schooling and has reorganised both mandatory and upper-secondary education (for further details see Albert *et al.*, 1999). In Italy, several reforms, aimed at re-structuring the educational system entirely, have been discussed. A few changes have already been introduced, such as the one-year increase in the compulsory school leaving age and the reform of the maturity exam (*Maturità*) at the end of upper-secondary school (for further details see Iannelli, 2000). The sample used in the analyses presented in the next sections is composed of young Spaniards and Italians who were not affected by these reforms. In the Spanish sample there are only a few cases of young people who attended schools which decided on an early implementation of the new law.

[8] This aspect of both educational systems is under revision. In Spain, the LOGSE has reduced the rigidity of the upper-secondary schools: it is easier to move from the vocational to the academic track and *vice versa*, and there is a higher number of credits that one can freely choose. In Italy, the projects of reforms are moving towards the introduction of a credit system. For each year of schooling, students' achievement will be attested through the acquisition of credits that could be used in cases of successive re-entry in the educational system or when moving from one type of school to another.

[9] In Italy, academic schools, which have a general content (not teaching any specific skill directly applicable in the labour market) mainly attract middle class children, while vocational or technical tracks are attended by the majority of the student population.

Country differences clearly emerge at the tertiary education level. Despite access to university in both countries being conditioned on having passed an exam at the end of upper-secondary school (*Maturità* in Italy, *Selectividad* in Spain), there are differences in the implications of the results of this exam. In Spain, the *Selectividad*'s grades, together with the upper-secondary grades, are used to construct a complex average university entry number, which is taken into account in admission to most of the universities. In general, there is a *numerus clausus* to enrol in almost all long university degree courses (at least in the officially recognised universities) and some short university degree courses, where access is more open. In Italy, with some exceptions,[10] the majority of the universities do not have selective access (based on *Maturità* exam's grades or university entry examinations). Moreover, there is not necessarily any connection between the kind of secondary school attended and the subject read at university. Thus, whatever kind of upper secondary school has been attended, students can decide freely which faculty to enter. On the contrary, in Spain, there is a strong connection between the type of upper-secondary track attended (sciences or humanities) and the subject read at university. In general, students coming from Humanities cannot enter a Sciences Faculty.

Other important aspects of the tertiary education are the differential expansion of short-degrees and differences in the average time needed for the completion of long-university degrees. In both countries, short-university courses were introduced in the mid-1980s. However, both the number of universities providing these type of programmes and the variety of degrees offered, have been notably higher in Spain[11] than in Italy. In the two countries, there is no formal limit on the length of time a student takes to complete his/her course of studies. Nevertheless, the average time taken by university students to complete long-university degree is much longer in Italy than in Spain. The long period that an Italian student has to spend at university very likely increases the chances of dropping out before graduation. According to ISTAT data (1997), in Italy six years after enrolment at university only one third of young people have obtained their degree.

To summarise, the main differences between the Italian and the Spanish educational system are connected to the recent development of the Spanish university system. Selective university entry, the expansion of short-university degrees and the lower drop-out rates in Spain have led to a remarkable expansion in university graduation rates, which has not taken place in Italy.

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[10] This is the case in faculties such as Medicine or Veterinary where there is a *numerus clausus*.

[11] This expansion of short-degrees, together with the shortening of long degrees, can be considered as a result of the LRU (1983), which gave autonomy to the Spanish universities.

3.2. Labour market characteristics

The Spanish and Italian labour markets have been classified as rigid labour markets given the high firing and hiring constraints, the strong power of trade unions, the strongly regulated wage setting systems, and the existence of minimum wages. This has resulted in a high segmentation between workers with protected stable employment, or "insiders", and those without employment guarantees, or "outsiders" (Lindbeck and Snower, 1988; Marsden, 1990; Bentolila and Dolado, 1994; Bertola and Ichino, 1995; or Nickel and Layard, 1998 amongst others).

Adam and Canziani (1998) collected some indicators, which describe the rigidity of the Spanish and Italian labour markets. In 1991, Italy and Spain had the lowest monthly unemployment outflow rate (3.6% for Italy, 2% for Spain compared to 13.4% for the UK. and 8% for Germany). The unemployment duration was longest in Italy and Spain (around 40 months compared to 8 months in the UK and 14 months in Germany). Both countries showed the highest values in the OECD rigidity index[12] (21 against 7 for the UK and 15 for Germany).

In the mid-1980s, as many other European countries, Italy and Spain implemented a series of labour market reforms aimed at increasing flexibility. The major change was the introduction of fixed-term training contracts in Italy[13] (*contratti di formazione e lavoro*, and *contratti di apprendistato*) and fixed-term contracts, with training (*contratos de formación* and *contratos en prácticas*) and without training (*contratos temporales*),[14] in Spain. One of the aims of the introduction of these types of contracts in both countries was to ease the entry into the labour market of the most disadvantaged groups (i.e. young people, the low-skilled, the long-term unemployed and the women) (Adam and Canziani, 1998). Despite this common objective, temporary contracts have been implemented in a totally different way: Italian training contracts have covered a narrower segment of the labour force than Spanish fixed-term contracts, but they have provided stronger incentives to be converted into permanent employment. According to Adam and Canziani (1998), in Italy the proportion of training contracts transformed into regular ones was 55% in 1985, while in Spain from 1987 to 1996 the annual rate of fixed-term contracts transformed into permanent ones was on average 15%.

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[12] This OECD index is the rank order of a weighted average of four indicators: the sum of maximum notice and severance payment in months, the OECD strictness of protection for regular workers and workers with fixed-term contracts; the average of the IOE scoring of obstacles to dismissal or use of regular and fixed-term contracts and a ranking made by Bertola (1990).

[13] In Italy, fixed-term contracts without training obligation (such as seasonal jobs) were heavily regulated until recent years (for details see the basic laws 30/1962, 79/1983 and 56/1987), i.e. the contract could be renewed only once; the maximum duration depended on collective agreements (usually 4-6 months); firms could only use these contracts for specific reasons and in a limited number (set by collective agreements); and hiring restrictions existed at the end of the contract. In 1997, the government allowed for the opening of agencies for temporary work (law 196/1997) which were introduced in 1998 and currently, a series of reforms of the fixed-term contracts without training obligation is under debate. However, none of these changes has affected the sample analysed in the present paper.

[14] In Spain, temporary contracts have been subject to continuous changes since the mid-80s. The major reforms after 1984, which took place in the mid-1990s, tried to restrict the abuse of fixed-term contracts, especially of those with a training requirement. Nevertheless, they have not resulted in a significant reduction in temporary jobs. For details on the new legislation, see Toharia (1998).

As a result of these reforms, in the mid-90s, the insider-outsider structure characterising the Italian and Spanish labour markets has not disappeared but its nature seems to have changed, especially in Spain. As highlighted in Bentolila and Dolado (1994), the main effect of the Spanish labour market reforms has been the emergence of a dual labour market in Spain. As a result of the abuse of fixed-term contracts, the power of insiders has increased and the guarantees of outsiders - a group which is now made up of the unemployed and those with fixed-term contracts - have decreased. The existence of this two-tier labour market, allows for a high job-turnover and high wage flexibility among outsiders,[15] which does not reduce the persistently high unemployment rates among outsiders and the high wages among insiders. The new Spanish labour market system has enhanced the possibilities of finding a job for most of those looking for employment at the cost of increasing job-turnover. On the contrary, the Italian one has improved the long-term chances of stable careers for a narrower group of young people facing employment difficulties without reducing the total number of first-time job seekers (Adam and Canziani, 1998),

Given the narrow segment affected by the labour market de-regulation of the mid-1980s, the insider's power in Italy remained practically unchanged until the abolishment of the *Scala Mobile* in 1992. With the disappearance of this wage indexation system, which was responsible for high wage compression among employees, insiders may have lost part of their power. Nevertheless, high firing and hiring constraints ensured their high job stability, which in turn has increased the barriers for outsiders, especially for those looking for a first job. The co-existence of a segment of well-protected employees and a wide group of first-time job seekers explains the low job-turnover but high youth unemployment rates which characterise the present Italian labour market.

Summing up, young people in Italy and Spain are a similarly disadvantaged group in the labour market. However, recent labour market reforms have shaped differently the labour market transition patterns of young people in the two countries: in Italy, young people continue to wait a long time before entering a first-time job, in Spain, youngsters face fewer difficulties in finding a first-time job, but encounter more problems in entering a stable job career.

3.3. Family structure and welfare policies

The study of youth transitions in Italy and Spain (as well as in other Southern European countries) cannot neglect the role played by the family. It is in this respect that Italy and Spain show more similarities: in both countries, the constant presence and support of the family alleviates the difficulties that young people encounter in entering the labour market, and the high degree of instability in early job careers (Bentolila and Ichino, 2000).

Cavalli and Galland (1995) contrast a Mediterranean model of young people's transition to adulthood with a Northern European model and a British model. In the Mediterranean model, young people spend a longer period studying, have greater difficulties in finding a job after leaving education; have a higher propensity to live with their parents, even after having found a job; and tend to leave the family of origin when getting married.[16]

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[15] Jimeno *et al.* (2000) argue that this wage flexibility among youngsters can also be seen as a result of the increasing proportion of highly educated workers in semi-skilled jobs who are receiving the minimum wages set by sectoral collective bargaining for semi-skilled occupations.

The prolonged period of living with parents which characterises Southern European countries, and Italy and Spain in particular, is the result of educational and labour market characteristics and individual choices.

The educational system is not organised in colleges and does not offer residential facilities for young students. Moreover, in both Italy and Spain student grants are few and related to family income. Thus, the majority of those studying also live with their family (Jurado and Naldini, 1996). This results in intergenerational transfers through "residence" and money transfers for paying the costs of studying.[17]

The labour market in Italy and Spain is characterised by high youth unemployment rates and job insecurity. The long time spent looking for a first-time job (or for finding a more stable job, especially in the Spanish case) leads young people to live in their parents' house for years even after having completed their studies. During this period there are conspicuous intergenerational transfers through residence, money but also through informal family networks activated in searching for a job.

Lastly, in the Southern European countries the decision to leave the parental home tends to coincide with the decision to get married. Since nowadays getting married is delayed, living independently is also delayed.[18] EC (1997) figures show that in Italy and Spain there is a very low percentage of people living alone or in cohabitation. Iacovou (1998) underlines this feature pointing out that young people in Southern Europe tend to move directly from the status of children living with their parents to the status of married person and to have children soon after marriage.[19] Therefore, in Southern European countries, there are also cultural factors which militate in favour of a longer cohabitation between grown-up children and their parents and make this prolonged cohabitation socially acceptable (Jurado and Naldini, 1996; Iacovou, 1998). Family values are still strong, but a new form of relationships within the family has emerged. The young generations have been successful in negotiating new forms of cohabitation with their parents in which they have achieved considerable autonomy and independence (Cavalli, 1995; Casal and García, 1995).

The central role played by the family in young people's transition to employment and to independent life in Italy and Spain is reinforced by the existing Welfare State arrangements (as described by the Continental Welfare State model in Esping-Andersen, 1997). Welfare State provisions in these countries mainly benefit the head of the household (the "male breadwinner"), since most of social entitlements are linked to employment and male adults are the ones more likely to be employed (Esping-Andersen, 1997). This results in a strong dependency of family members (adult children included) on the entitlements of the head of the household. [20] The perverse effect of this system is young people's job insecurity and financial dependency (see previous section on insiders-outsiders theory).

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[16] In contrast, in the Northern European countries young people tend to leave their family early either to live alone or in a couple. And in the British countries young people display a precocious transition to adulthood: entering the labour market occurs early as does leaving the family of origin and living with a partner.

[17] This may also be the result of the banking system, which contrary to the US or UK, does not offer loans to young people.

[18] The postponed decision to get married is also considered one of the causes of the low birth rates of Southern European countries compared to the rest of Europe.

[19] On the contrary, in the Northern European countries and in the UK the routes which lead a young person to leave the parental home, form one's own family and have children are very diversified. Young people experience a variety of statuses, such as living alone, cohabiting with a partner or being married for a long time, before having children.

It is worth briefly recalling some policies that clearly disadvantage young people in Italy and Spain. In both countries, only people who had a previous regular employment are entitled to unemployment benefits. Thus, young people looking for their first job do not receive any of these benefits and those who already worked, but for a short period (such as those with short fixed-term contracts), usually receive low benefits. Moreover, in terms of European standards,[21] unemployment assistance for young people in Italy is also very low, and in Spain, although unemployment assistance does not allow for financial independence either, it is slightly more generous (Laaksonen, 2000; Bover *et al*, 1998).

In Italy, young people or couples do not have entitlement to social housing and very limited entitlement to housing allowance.[22] In Spain, they are also not entitled to social housing. However, the government provides support to access housing (in terms of public subsidies, low interest rates for mortgages, tax benefits) to those with low income.[23] Young people have been the main beneficiaries of these programmes, called *Viviendas de Proteccion Oficial* (VPO) and *Viviendas a Precio Tasado* (VPT). Nevertheless, housing has often been blamed for contributing to a delay in the decision to leave the parental home among Spanish youngsters (Jurado, 1999).

To conclude, the family in Italy and Spain equally compensates for the lack of welfare provisions in favour of young people. As a result, family support plays a fundamental role in alleviating the difficulties in labour market entry, making the transition to employment smoother, but also longer.

4. Research Questions

The difficulty in adequately classifying Italy and Spain within a common Southern European model of school-to-work transition can be better understood in light of the above-described institutional characteristics. The expansion of the tertiary education and the strong de-regulation of the youth labour market in Spain are very likely responsible for the differences in labour market transition patterns between young people in Italy and Spain. However, despite these differences, the family is very likely to exert the same function of support in the two countries.

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[20] It is interesting to highlight that legislation in Italy enforces parents' legal financial obligation towards their children until the children can sustain themselves without age limits (Saraceno, 1997, p.93). This means that children can claim financial assistance from parents their whole life long.

[21] The generosity of the unemployment benefits depends on the percentage of previous wage paid; the maximum time covered; the coverage (number of unemployed covered); and the eligibility for benefits and/or assistance (e.g. first job seekers).

[22] In Italy, the housing market is not particularly favourable to young people. There is a scarcity of rented houses; moreover, renting accommodation is very costly (especially in the big cities) and housing allowances low. For further details on the housing system in Italy see Padovani (1996).

[23] See Alberdi and Levenfeld (1996) for details on the Spanish housing system.

Based on the institutional differences (and similarities) outlined in the previous section, in this part we formulate a set of research questions designed to investigate the relationship between the educational attainment of Italian and Spanish youngsters and their early labour market outcomes. Moreover, we examine the relationship between family dependence (in the form of co-residence) and the labour market status of young people in Italy and Spain. The vulnerable situation experienced by young people in their early job career (high unemployment risk and high job instability) in the two countries leads us to hypothesise very similar patterns of association between youth labour market status and family dependence.

Three main questions will be addressed:

A. What are the effects of the differential expansion of tertiary education in Italy and Spain?

The faster development of tertiary education in Spain is expected to have resulted,[24] on the one hand, in a worsening of the labour market prospects of young people with low educational attainment and on the other hand, in credentials inflation. As suggested by Jimeno et al (2000), the positions in the job queue occupied by those with low levels of education are taken by those with higher levels of education (namely, the positions of people with compulsory education or less are taken by those with upper-secondary education and the positions of upper-secondary diploma holders taken by university graduates). Hence, low educated individuals are crowded-out by high educated ones, and high educated individuals enter occupations for which they are over-qualified. Thus, compared to Italians, it can be expected that:

> Question A.1: Spaniards with low levels of education (compulsory education or less) will have a higher probability of being unemployed than Italians with the same educational level;
>
> Question A.2: Spaniards with low levels of education (compulsory education or less) will have higher chances of having atypical contracts;
>
> Question A.3: High-educated young people (diploma holders and university graduates) will be more likely to enter lower occupational positions in Spain than in Italy.

B. What are the effects of different labour market de-regulation in the two countries?

We expect that the widespread use of fixed-term contracts in Spain has reduced the proportion of young people looking for a first-time job, while increasing job instability in the early career. Labour market reforms in Italy have not succeeded in easing the possibilities of entering a first job, but have maintained job stability for youngsters who manage to find a job. Adam and Canziani (1998) describe the reasons for these differences, while in Italy most of the time having a fixed-term contract (which in most cases are training contracts) leads to a permanent job, in Spain, those with fixed-term contracts (with or without training) have much lower chances of becoming permanent employees. Hence, fixed-term contracts in Spain have maximised job-turnover. Thus, we predict that:

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[24] As shown in table 2.1, the gap in the educational attainment of the youngest cohorts (age groups 25-29 and 30-34) is much stronger in Spain (8 percentage points) than in Italy. In Spain, the reduction in the proportion of individuals with lower secondary education has occurred together with an increase in the percentage of people who has reached and completed tertiary level. In Italy, the increase in educational attainment has mainly concerned the upper-secondary level.

> Question B.1: Italians, whatever their educational level achieved, will have a higher probability of being first time job seekers and a higher risk of long-term unemployment than Spaniards;
>
> Question B.2: Italians, whatever their educational level achieved, will have higher employment stability once in a job.

C. Does the family play a different role in both countries?

We expect that the family will play a similar role in the two countries. Despite the school-to-work pathways of young people in Italy and Spain being different, the overall labour market situation is the same: young people need external support to bear the consequences of unemployment or unstable jobs. As shown by Bentolila and Ichino (2000), in both countries, the family is the main *de facto* provider of financial support through (amongst others) extended periods of co-residence of parents and adult children. Thus, we expect that:

> Question C: The chances of living with the parents will be equally high for both Italians and Spaniards, especially for those who are in education, unemployed looking for first-time jobs or employed in temporary jobs

5. Data, Variables and Methodology

In order to answer the previous research questions, we compare the school-to-work transition patterns of Italians and Spaniards using individual data from the second quarter of 1996 of the Italian and Spanish Labour Force Surveys.[25]

The "transition" term used in this paper is defined as the change of status from being a student to being in the labour force or inactive. The time-span of these transitions ranges from one to five years after having achieved the highest qualification. Unfortunately, the 1996 LFS questionnaire did not collect information on the date at which individuals left education.[26] Therefore, we use the typical age of graduation from each educational level as a proxy for the time at which individuals left education, (OECD, 1998). The choice of five years has been made for two main reasons. First, Italian and, to a lesser extent, Spanish young people have shown a longer transition period before acquiring a job than young people in other countries (EC, 1997). Thus, restricting the analysis to a short-term prospect would make it difficult to analyse the transition from school-to-work, simply because many of them would have not made the transition. Second, in order to explore certain labour market outcomes (such as type of employment contracts) we need to have a large enough sample of people who have left the student status. Three years after the expected school leaving age, a large number of individuals are still in education. Hence, the extension to five years seems to be more reasonable.

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[25] In the LFS, there is a subsample of individuals who are followed up over six quarters. The paper would be enriched if we could use this panel sample, but unfortunately, at the moment of writing, we do not have access to these data. The analysis would also benefit from pooling samples from other years in order to control for the effect of the business cycle

[26] The date at which the individual left education has been collected for the first time in the last wave (1999) of the LFS.

Following these considerations, we have distinguished three samples of "education leaver":[27] lower-secondary leavers, upper-secondary leavers and tertiary leavers.

- Lower-secondary leavers are those individuals 15-19 years old (16-19 in the Spanish case)[28] with lower-secondary education[29] or less as their highest educational attainment. Lower-secondary means *Scuola Media*, in the Italian case, and *E.G.B or E.S.O* in the Spanish one.

- Upper-secondary leavers are those aged 20-24 with upper-secondary education as their highest educational attainment. For Italy, we consider as upper-secondary graduates those who have completed any of the following: *Licei, Istituti Tecnici, Istituti Professionali, Istituto Magistrale, Istituti d'Arte* and any other short-vocational course officially recognised as upper-secondary education. In Spain, we classify as upper-secondary graduates those who have completed any level of the officially recognised *Formación Profesional* (*FP I, II, Módulos II*) and any other officially recognised short-vocational course, but also those who have completed the first three years of a long university degree.[30]

- Tertiary education leavers are those individuals 25-29 years old (and also 30-34 years old in the Italian case) with a tertiary education degree[31] as their highest educational attainment. We have decided to expand the period of observation in the Italian case, because as pointed out before, Italians take longer than Spaniards to complete their

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[27] In our analysis an "education leaver" is defined as a young person who has left the education system and at the moment of the interview he/she is declared to be in the labour force (employed or unemployed) or inactive. Young people who are still in education at the moment of the interview are excluded from the analysis.

[28] The legal working ages are different in Italy and Spain (15 and 16 years old, respectively). This explains the different ages at which individuals are interviewed in each country and it is also the reason for having different time-spans for lower-secondary leavers.

[29] Our definition coincides with the one used by OECD and EUROSTAT, which consider those individuals with ISCED 0-2 as low educated.

[30] In the case of Spain, this paper uses a definition of upper-secondary that is slightly different from the one used by OECD or EUROSTAT. The OECD and EUROSTAT classification considers *F.P II*, the *Módulo II* and those who have completed only the first three years of a long-degree as ISCED 5 and, therefore, they are part of the group of highly educated. We prefer not to follow their criteria because, from our point of view, they do not allow for a proper comparison with the Italian case. On the one hand, in the Italian questionnaire the category "have completed the first three years of a long-degree" does not exist so that those who are in that situation declare as their highest educational qualification upper-secondary. On the other hand, in Spain the *F.P II* and the *Módulo II* are considered as part of the upper-secondary educational system, as is the case for the Italian *Istituto Professionale* or *Istituto Tecnico*.

[31] We follow the OECD and EUROSTAT definitions for high levels of education, i.e. ISCED 6-7.

> university studies: the median age of tertiary education completion is 23.8 for Spain and 26.8 for Italy (OECD, 1998). Including only the group aged 25-29 in Italy would have meant analysing a very selective group of tertiary graduates (the most successful ones). Moreover, we have decided to exclude from the analysis tertiary leavers aged 30-34 in Spain because they would not represent education leavers, since they would have left tertiary education more than 5 years previously. Tertiary education leavers are graduates who have completed a *Laurea breve, Laurea* or above, in the Italian case; and graduates who have finished a *Diplomatura, Licenciatura* or above, in the Spanish case.

To address the questions presented in the previous section we have analysed the labour market outcomes (employment, unemployment and inactivity), the characteristics of employment and unemployment status (atypical contracts, occupational class and types of unemployment) and family dependence of Italian and Spanish samples of lower-secondary, upper-secondary and tertiary leavers. We mainly use logit estimations and present two models: the first one includes only gender and educational level (with a distinction between university graduates aged 25-29 and 30-34 in the Italian case, when the two age groups show significant differences in the labour market outcomes). The second model controls for the type of educational qualification achieved, the area of residence and sector of activity (only for the analyses restricted to the group of employed).

The main focus of the analyses is the study of country differences in the relationship between education (lower-secondary, upper-secondary and tertiary level) and early labour market outcomes. Thus, the results mainly discussed in the text will be those related to education. In the tables we present the estimations of the relative (marginal) effects of having reached each educational level respect to the previous one: the marginal effects of having upper-secondary *versus* lower-secondary and tertiary education *versus* upper-secondary. Moreover, we graphically plot the total advantage (absolute effects) of having reached a certain educational qualification. The total effects of the highest educational levels are derived by adding up the coefficients of the previous educational levels: thus, the total effect of upper-secondary education is the sum of the coefficients related to lower secondary and upper-secondary qualification, while the total effect of tertiary education is the sum of the coefficients related to lower-secondary, upper-secondary and tertiary education.

Among the other independent variables, "gender" is used as a dummy variable where "males" is the reference category; "types of educational qualification achieved" is measured as a categorical variable, which distinguishes between short-vocational tracks (schools of 2, 3 or 4 years), long-vocational and technical schools (schools of 5 years), and academic tracks (the reference category). Area of residence is measured as a categorical variable. In Italy, this variable is created by aggregating the regions in which the respondents were resident at the time of the survey into three categories: the North-West includes Valle d'Aosta, Piemonte, Lombardia and Liguria; the North-East and Centre is constituted by Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, Emilia Romagna, Toscana, Marche and Umbria; and the South and Islands (the reference category) includes Lazio, Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia and Sardegna.[32] In Spain the variable "area of residence" is created by aggregating the Spanish regions in four main areas: the area of sustainable growth which includes Madrid, Rioja, Navarra, Aragon, Cataluña, C.Valenciana and Baleares; the area of industrial decline composed of Pais Vasco, Cantabria, Asturias; the South/South-East constituted by Andalucia and Murcia; and the underdeveloped regions of Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla.[33]

6. Descriptive Statistics

In this section, using individual data from the Italian and Spanish LFS, we describe the differences and similarities in educational attainment of those aged 25-34. Then, we compare the labour market characteristics of lower-secondary, upper-secondary and tertiary leavers in both countries.

Table 6.1 shows that the proportion of 25-34 year-olds with compulsory education or less is similar in the two countries. However, after compulsory schooling cross-country differences emerge: 42.6% of young people in Italy and 32.8% in Spain gain a diploma from upper-secondary education; the percentage of people reaching a university degree is 7.9% in Italy and 17.3% in Spain. Country differences are striking when analysing the graduation rates from different types of upper-secondary school and university. At upper-secondary level, a large majority of young people in Italy has attended vocational and technical schools, while in Spain there is a more balanced distribution between graduates from academic and vocational tracks[34]. At university level, in Spain 43.1% graduated from short university courses compared to 9.9% in Italy.[35]

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[32] This tripartition is based on Bagnasco's distinction (1977) of three areas of the Italian economy. Thus, the North-western regions are dominated by large industries who had their golden period in the 1950s and 1960s but entered a crisis in the mid-70s. The regions of the North-east and Centre are characterised by very specialised small- and medium-sized firms. These are well integrated in the local context and competitive in the international market. The regions of the South and Islands are marked by an underdeveloped economy, with a large part of the population employed in black market or temporary jobs and the others mainly employed in the public sector and services.

[33] We follow the classification developed by the Spanish Ministry of Public Finance (*Secretaria de Estado de Hacienda*, 1993), except for the cases of C. Valenciana and Asturias, which the Ministry classified as a separate area called "area of intermediate development". From our point of view, in 1996 these regions were rather similar to the ones in the area of sustainable growth (in the case of Valencia) and that of industrial decline (in the case of Asturias). Hence, we have preferred to use this alternative criteria.

[34] The data presented in this table are slightly different from the official statistics. In Italy, we have preferred to use a more restricted definition of academic schools, namely more exclusive and university oriented schools (Young, 1999). In contrast to the official statistics, in which the academic tracks include all schools offering general programmes, our definition of academic refers only to *Licei*. In Spain, the proportion of academic graduates is slightly higher in our figures since we have included in this category those who have completed three years of a long university courses without gaining the final degree. For this group, we did not have information on the upper-secondary type of track followed. We have considered them as academic graduates since most of the students enrolled in long university courses attended academic tracks.

[35] The higher proportions attending academic schools and the large expansion of short university degrees in Spain have probably contributed to the rise in the level of youth educational attainment. This is because (1) academic programmes are generally aimed at preparing students for university studies and (2) short university courses offer the possibility to a larger number of young people of acquiring a tertiary qualification without embarking on a long university career. The same reasons militate against

A higher percentage of young people with lower secondary education is unemployed in Spain than in Italy (39% in Spain compared to 31% in Italy; see table 6.2). The labour market status of upper-secondary diploma holders in the two countries looks very similar. Comparing the same age group of tertiary graduates in Italy and Spain, that is the youngest ones aged 25-29, a higher percentage is unemployed in Italy than in Spain. The reverse applies when comparing the group 30-34 of tertiary graduates in Italy to the group 25-29 of tertiary graduates in Spain. This may be explained by the longer permanence in the labour market of the older group of Italians which probably increases the chances of finding a job.

There are striking differences between Spain and Italy in the unemployment and employment characteristics of our three selected groups (tables 6.3 and 6.4). In general, Spain shows lower rates of first-time job seekers and long-term unemployment for all educational levels. However, the data show that in Italy, irrespective of the educational level reached, all young people face great difficulties in entering the labour market and exiting unemployment. On the contrary, in Spain, there is more variation among people with different educational qualifications: a higher percentage of lower-secondary school leavers is looking for a first-time job but a lower percentage of them is in long-term unemployment than those with upper-secondary and tertiary leavers.

Among the employees, the proportion of young people working under fixed term contracts[36] is three times (or more) higher in Spain than in Italy. In Italy, the percentages are lower than 30% for all educational levels. In Spain, they range from 57.6% (men with tertiary education) to 89.1% (men with lower secondary education or less). In both countries, employment with fixed term contracts (but also training contracts) is more frequent among lower-secondary school leavers than the others. In common with other countries, Spain and Italy show a higher proportion of women among the employed in part-time jobs.[37] However, the percentages of both sexes in part-time jobs are higher in Spain than in Italy. In Italy, slightly more people with a university degree are in part-time jobs. In Spain, this is true for men but not for women. Tables 6.3 and 6.4 also show that in Italy those aged 30-34 have lower chances of being a first-time job seeker and of having a training or fixed-term contract than those 25-29 year-olds. However, this youngest group of tertiary education leavers seems to be less likely to suffer long-term unemployment.

Table 6.5 shows the distribution of lower-secondary, upper-secondary and tertiary leavers across five occupational categories.[38] On the one hand, it is immediately

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the Italian educational system. The selectivity of the academic tracks (only a minority of the student population attend them) and the prevalence of long university degree courses have probably depressed the number of university graduates.

[36] We consider as fixed-term contracts all those temporary contracts with a established duration, so it includes training contracts, seasonal jobs, contracts for a probationary period and those covering absence of another worker. In the Spanish case, it also includes those working for a specific work or service.

[37] The definition of part-time is based on self-reported type of job (full-time *versus* part-time).

[38] We grouped the occupations into 5 groups which resemble the 5 occupational classes identified by the OECD (2000, p.96): high-skilled non-manual (managers, professionals and technicians), medium-skilled non-manual (clerks and office workers), lower skilled non-manual (sales and service workers),

evident that a much higher proportion of tertiary and secondary leavers tend to enter high-skilled non manual jobs in Italy than in Spain (80.7% and 26.6% in Italy versus 63.4% and 6.5% in Spain). On the other hand young people with upper-secondary and lower-secondary education in Spain tend to occupy unskilled manual positions more often than in Italy. However, it has to be pointed out that, when the top and the bottom two occupational groups are grouped together, the percentages of tertiary graduates in the top non-manual occupations and the percentages of lower-secondary leavers in manual occupations are very similar in Italy and Spain.

A look at some statistics about family dependence shows great similarities between Spain and Italy. Almost all young people who left from lower-secondary or upper-secondary school are still living with their family (table 6.6). Moreover, in both countries more than 60% of people aged between 25 and 34 with a university degree are also living with their parents. Another indicator of family dependence is the percentage of young people working within the family. Also in this case the similarities between Italy and Spain are striking. The percentage of family workers are higher among lower-secondary leavers (14.8% in Italy and 16.6% in Spain) than among upper-secondary and tertiary leavers.

To summarise, the descriptive statistics confirm that the major differences between Italy and Spain are likely to be associated with different institutional arrangements in the education system and labour market. Moreover, the degree of young people dependence on the family appears to be very similar in the two countries.

7. The consequences of the differential expansion of tertiary education

This section addresses the issues presented in A.1-A.3 (section 4), that is, those leaving lower-secondary education are expected to have worse labour market outcomes in Spain than in Italy. First, it analyses whether Spaniards with low levels of education are significantly more likely to be unemployed than their Italian counterparts. Second, it compares the chances of having atypical contracts of Italian and Spanish youngsters leaving lower-secondary education. Then, it moves into a comparison of the occupational status of Italians and Spaniards to investigate whether the returns to education are significantly higher in Italy than in Spain.

7.1. The effect of educational level on labour market outcomes

The log-odds ratios of being unemployed and not in the labour forces *versus* employed are estimated using a multinomial logit model. The aim is to investigate whether there are significant country differences in the effect of education on young people´s labour market outcomes

The analysis starts with a cross-country comparison of the total advantage (absolute effects) of each educational qualification relative to the lowest category. Then, cross-country differences in the relative advantage (marginal effects) of having reached

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skilled manual (agricultural workers, craft and plant and machine operators) and unskilled manual (elementary workers).

each educational level with respect to the previous one are investigated.[39] Confirming our expectations (question A.1), lower-secondary leavers are significantly less likely to be unemployed instead of employed in Italy than in Spain (graph 7.1). However, leavers from upper secondary and tertiary education are less likely to be unemployed in Spain than in Italy. In Spain there is a clear linear effect of education on the chances of being unemployed, that is acquiring higher educational levels significantly reduces the chances of being unemployed. In Italy this linear effect is absent. Lower secondary and tertiary leavers (aged 25-29) have the same chances of being unemployed while diploma holders show the highest risk of unemployment. In this analysis the group of tertiary leavers has been split in two subgroups: the youngest, aged 25-29, and the oldest, aged 30-34. The oldest group of tertiary leavers is much less likely to be unemployed than the others. This can be explained by the fact that older university graduates very likely have spent more time in the labour market either looking for a job or having some experience of work. Table 7.1 (first two columns) shows that the relative advantage (marginal effect) of having a diploma from upper-secondary school or a university degree (with the exception of the older group of tertiary leavers in Italy) is higher in Spain than in Italy.

The last two columns of table 7.1 (and the second graph 7.1) present the log-odds ratio of being in the category "other", which includes those who are inactive (military service, housewives, unable to work etc.), *versus* being employed. The results show that acquiring higher levels of education decreases the chances of being inactive in both countries. However, those leaving school with only lower-secondary education are significantly more likely to be inactive in Spain than in Italy. This may be interpreted as a further indication of the particularly disadvantaged situation that less educated people in Spain are facing (a "discouraged effect").

We have estimated another model in which area of residence and types of qualifications achieved are introduced among the independent variables (table 7.1b). The results show that in Italy the chances of being unemployed and inactive are strongly influenced by the area of residence and the type of diploma acquired. Thus, young people with lower-secondary education are significantly more likely to be unemployed (and inactive) in the South of Italy than in the rest of the country. Moreover, leavers from academic tracks are significantly more likely to be unemployed (and inactive) than those leaving from short and long vocational tracks. Even though there are some significant differences among people with different types of diploma or living in different areas of the country, in Spain the results presented in table 7.1 remain substantially unchanged.

To conclude, the expectation formulated in question A.1 seems to be confirmed: overall lower-secondary leavers are significantly less likely to be unemployed (and inactive) in Italy than in Spain (however, this result does not hold for all areas of the countries, especially in Italy). Moreover, having a diploma from upper-secondary school or a university degree represents a clear advantage against unemployment in Spain but not in Italy.

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[39] This order (first a description of the total effect and then a description of the marginal effect of education) will also be followed in the next sections.

7.2. *The effect of educational level on the risk of having atypical contracts*

In this subsection, we address the issue of whether Spanish young people with low levels of education are more likely to have atypical contracts than their Italian counterparts (question A.2). This is because in Spain the low-educated are crowded-out towards unemployment or precarious employment by those more educated. Thus, the marginal effects of reaching a higher level of education on the chances of finding a permanent job should be higher in Spain than in Italy.

Logistic regression is used to estimate the total and marginal effects of education on the probability of having atypical contracts. Three type of contracts are studied: training contracts, which are fixed-term contracts with a training requirement; fixed-term contracts, which are any type of temporary contract (with or without training); and part-time contracts. The analysis of training and fixed-term contracts is performed on the sample of employees. The estimations on part-time jobs are carried out for the whole sample of employed individuals.

The group of graphs 7.2 shows the total effects of education on the log odds of being in a training contract *versus* any other contract, in a fixed-term contract *versus* a permanent job, in a part-time *versus* a full-time job. The figures suggest that the chances of having fixed-term and part-time jobs are higher in Spain than in Italy for all educational levels, but cross-country differences are strongest for those with low levels of education. The likelihood of having a training contract is similar for lower and upper-secondary leavers in both countries but different for tertiary education leavers (aged 25-29). While the older tertiary leavers (aged 30-34) in Italy have the same low chances of working with a training contract than tertiary leavers in Spain, the youngest tertiary leavers (aged 25-29) seem to be more likely to work with a training contract in Italy than Spain. This may be the result of the different educational targets and age limits of training contracts in the two countries: in general, in Spain these contracts have been mainly aimed at low-skilled youngsters aged under 25, while in Italy they were designed to hire young people aged 15-29 without any explicit educational restriction.[40] The graph on fixed-term contracts shows that achieving higher levels of education leads to greater increases in the chances of working in permanent jobs in Spain than in Italy (notice the steeper slope in the Spanish case). Also in this case there is a significant difference between tertiary graduates aged 25-29 and those aged 30-34 in Italy showing that younger graduates have significantly higher chances of working with a fixed-term contract than older ones. This finding is probably related to the difference in legislation of training contracts mentioned above since in Italy most fixed-term contracts are training contracts.

The significant difference in the intercepts of columns 3-4 and columns 5-6 in table 7.2 indicates that lower-secondary leavers in Spain always have higher chances of working with a fixed-term or a part-time contract than their Italian counterparts. The significant difference in the upper-secondary and tertiary education coefficients of columns 3-4 confirms our previous observation on the fact that higher levels of education lead to greater increases in the chances of working in permanent jobs in Spain than in Italy.

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[40] See Adam and Canziani (1998) for further details.

In order to check the robustness of these cross-country differences we have repeated the previous estimation controlling for school and university type, region of origin (see table 7.2b) and sector of activity (see table A.1 in appendix). The results show that, in general, the previous cross-country differences do not change substantially when these variables are introduced among the independent variables. In graph A.1 the first model is compared to the one which controls for region of residence and area of activity: the slopes in the former and the latter model do not change substantially.

All together these results support our expectation about the higher chances of having atypical jobs among Spanish lower-secondary leavers (question A.2). On the one hand, lower secondary leavers are less likely to have fixed-term and part-time jobs in Italy than in Spain. On the other hand, the marginal effects of higher educational qualifications are higher in Spain than in Italy.

7.3. Returns to education in terms of occupational status

The present subsection deals with the occupational advantages that young people gain in attaining various educational qualifications. It addresses the question about the expected lower occupational positions occupied by less educated people in Spain compared to Italy (question A.3) by examining the total and the relative occupational advantage of having reached higher educational levels in the two countries. According to question A.3, the marginal occupational returns to university degrees should be higher in Spain than in Italy (because of the above mentioned lowering of the positions of the least qualified) while the total returns to university should be higher in Italy. The idea behind this latter expectation is that, since there is much higher competition at the top levels of education (due to the rapid expansion of education over the last years) in Spain, graduates from upper secondary and tertiary education will tend to fill positions for which they are overqualified.

To measure the occupational returns to education we use multinomial logit estimation of the probability of being in a given occupational class *versus* the reference category.[41] Results are reported in table 7.3 which provides the marginal effects of having upper-secondary *versus* lower-secondary and tertiary education[42] *versus* upper-secondary. Graph 7.3 shows the total effects of education on the log odds of entering high-skilled non manual (Class I), medium-skilled non manual (Class II), skilled and unskilled manual jobs (Class III and Class IV, respectively) contrasted to unskilled manual jobs (Class V). It clearly emerges that the chances of entering higher occupational classes are higher in Italy than in Spain for all educational levels. Moreover, having obtained a high educational level increases the chances of having a better job in both countries. However, achieving tertiary education seems to be more rewarded in Spain than in Italy. The coefficients presented in table 7.3 confirm this impression. The intercepts of the contrast between Class I, II, III and IV and Class V indicate that lower-secondary leavers always have higher chances of entering unskilled manual jobs in Spain than in Italy (these country differences are also significant). However, the marginal returns to the attainment of tertiary education relative to upper secondary education are higher in Spain than in Italy (and country differences are significant when contrasting Classes I and II to Class V).

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[41] Since the ordering of the five categories and their relative distance cannot be assessed with certainty we have preferred to use multinomial estimation instead of OLS regression.

[42] Given that in this analysis the difference between tertiary graduates aged 25-29 and 30-34 in Italy is not significant this distinction is not reported and only the coefficient for the total group aged 25-34 is presented.

To check whether the above mentioned country differences at upper-secondary level and university level are due to country differences in the occupational returns to different educational diplomas and university degrees, we have introduced in the analysis the distinction among school and university types (see table 7.3b). The results show that there are significant country differences in the occupational returns to different upper-secondary diplomas but no significant country differences emerge in the returns to short and long university degrees. Thus, contrasting Class I to Class V it emerges that young people leaving from short vocational as well as long vocational/technical tracks are more likely to gain a highly-skilled non manual job in Italy than in Spain. When the chances of entering Class II instead of Class V are contrasted, young people with a diploma from academic schools tend to be more likely to have a medium-skilled non manual job in Spain than in Italy. The contrast between Class III and V shows that Italians with short vocational diploma have higher chances of entering low-skilled non manual jobs than Spaniards with the same type of education. The results of the last comparison - Class IV versus Class V - do not show any significant country difference.

Finally, we have analysed whether the relationship between education and occupation in early career is affected by the sector of activity in which young people are employed. The general impression is that the relative advantage of having higher educational levels is not substantially changed in the two countries when sector of activity is introduced among the independent variables (table A.2, in the appendix). Controlling for sector of activity tends to compress the additional returns to upper secondary and tertiary education, especially in Italy (except for the last contrast between Class IV and V) but country patterns are only slightly altered. In graph A.2 the logistic regression lines of the first model (which does not control for sector of activity) are compared to those regression lines of the latter model in which sector of activity is introduced. The slopes are found to be very similar in the former and the latter models.

To conclude, this analysis has confirmed our expectations (question A.3): overall occupational returns to education are higher in Italy than in Spain but the marginal returns to tertiary education are higher in Spain than in Italy.

8. The effects of differences in labour market de-regulation

This section starts presenting the results of investigating whether Italians are more likely than Spanish to be first-time job seekers or long-term unemployed. Then, it compares the degree of mobility in early job careers in both countries.

8.1. Cross-country differences in the risk of being a first-time job seeker or long-term unemployed

This subsection investigates whether Spanish young people are less likely to be first-time job seekers and long-term unemployed than their Italian counterparts (question B.1). We proceed as previously with a comparison of the total and marginal effects of each educational qualification. Following question B.1, the marginal effects of education on the chances of finding a first-time job or exiting long-term unemployment should be lower in Italy than in Spain. Given the more contained used of atypical contracts in Italy, having obtained higher levels of education may not increase the chances of finding a first-time job much. Lower-secondary, upper-secondary and tertiary leavers should face similar risks of being a first-time job seeker or long-term unemployed As a result, the total advantage of having any level of education should be higher in Spain than in Italy.

Logistic regression is used to estimate the total and marginal effects of education on the probability of being first-time job seekers or long-term unemployed (estimation results are presented in table 8.1).

Graph 8.1 shows the total effects of education on the log odds of being first-time job seeker *versus* having worked in the past, being long-term unemployed *versus* being unemployed for less than 12 months. The figures suggest that the chances of being a first-time job seeker or long-term unemployed are higher in Italy than in Spain for all educational levels. Cross-country differences in the log odds of being a first-time job seeker are strongest for those aged 25-29 with tertiary education. The strongest differences in the log odds of being long-term unemployed can be found among those with low levels of education.

The coefficients in table 8.1 allow us to examine in further detail these cross-country differences. The significant difference in the intercepts of columns 1-2 and columns 3-4 indicate that lower-secondary leavers in Italy always have higher chances of being first-time job seekers and long-term unemployed than their Spanish counterparts. As is also visible in graph 8.1, having an upper-secondary diploma leads to a decrease in the likelihood of being a first-time job seeker in Spain but not in Italy (notice the significant differences in the upper-secondary coefficients of columns 1-2). Having tertiary education (compared to upper-secondary education) increases the chances of being first-time job seekers in both countries. On the contrary, achieving higher levels of education implies greater increases in the chances of suffering long-term unemployment in Spain than in Italy (as shown by the steeper slope in the Spanish case and the significant differences in the upper-secondary and tertiary education coefficients of columns 3-4). The latter surprising finding may also be the result of the use of fixed-term contracts in Spain. These contracts seem to considerably reduce the risk of long-term unemployment among the main target group, i.e. the low-educated, and to a lesser extent among youngsters graduating from upper-secondary and tertiary education.

Two other results are noteworthy. The significance of the coefficient for having tertiary education and being 30-34 years old (columns 1-2) suggests that in Italy the risk of being a first-time job seeker is much higher for those aged 25-29 (because they have probably just entered the labour force). On the contrary, the risk of being long-term unemployed (columns 3-4) increases for those aged 30-34 (who are likely to have completed their degree and to have started looking for a job earlier than their 25-29 year-old counterparts).

We have checked the robustness of these cross-country differences by repeating the previous estimation controlling for school and university types and area of residence. The results (reported in table 8.1b) show that, in general, the previous cross-country differences do not change substantially when these variables are introduced among the independent variables.

To conclude, these findings support our expectation about the chances of being a first-time job seeker and long-term unemployed among those leaving education in Italy and Spain (question B.1): Italians of all educational levels are more likely to be long-term unemployed and especially, first-time job seekers than their Spanish counterparts. This can be interpreted as a consequence of the different degree of de-regulation of the Italian and Spanish youth labour markets. The results also suggest that the relative advantage linked to different educational levels shows less clear patterns in both countries.

8.2. Cross-country differences in job stability

The comparison of transition probability matrices helps us to understand the degree of job stability among those leaving education in each country. We have computed separately transition probability matrices for each type of education leaver in Italy and Spain. Transition probability matrices, which represent the probability *(Paj)* that an individual is in a given labour market status *j* at time *t*, condition upon being in *a* at time *t-1*, are constructed using the information on labour market status in the previous year (1995). The labour market status considered are as follows: employed (E), unemployed (U) and out of the labour force (O) in 1995; and employed (E), unemployed (U) and studying[43] (S) and other inactive (O) in 1996. Results are reported in tables 8.2-8.4.

Table 8.2 presents the transition probability matrices of lower-secondary leavers in Italy and Spain. The high numbers on the diagonal suggest that, in general, there is persistence in both countries, i.e. individuals tend to stay in the labour market status they occupied the previous year. However, the Spanish lower-secondary leavers seem to be more mobile than their Italian counterparts: unemployed Spaniards are more likely to move into jobs (and also into inactivity) but once employed, they are more likely to move out of employment (towards both unemployment and inactivity). These results support our expectation that those with low levels of education in Spain face lower difficulties in finding jobs but higher risks of losing employment than their Italian counterparts.

The transition probability matrices for Italian and Spanish upper-secondary leavers are provided in tables 8.3. The numbers on the diagonal highlight that, although in general individuals tend to stay in the labour market status they occupied the previous year, there is less persistence than in the case of lower-secondary leavers, especially among those out of the labour force, who show very mobile patterns in both countries.

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[43] We keep "studying" as a separate category in order to analyse the flows back to education.

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As in the lower-secondary leavers' case, Spaniards are more likely to exit unemployment, but also more likely to move into unemployment if employed. These numbers point into the direction highlighted before: young Spaniards find and lose jobs more easily than their Italian counterparts.

Tables 8.4 present the transition probability matrices of Italians and Spaniards leaving tertiary education. There are not great differences in the Italian matrices corresponding to those aged 25-29 and those aged 30-34, with the exception of movements from out of the labour force to other labour market situation (among those aged 30-34 there is higher persistence in inactivity[44]). With respect to the rest of the entries, state dependence seems to exist among the employed and the unemployed in both countries, but in Italy the probability of moving out of employment is lower than in Spain, while the probability of exiting unemployment is higher in the Spanish case (especially when comparing those in the youngest group). These figures suggest, once again, that Spaniards who are employed are more likely to face job instability than their Italian counterparts (question B.1). Nevertheless, the cross-country differences are less pronounced for tertiary education leavers than for lower and upper-secondary leavers.

To summarise, all these figures support our expectation that those leaving education in Spain face lower difficulties in finding jobs but higher risks of losing employment than their Italian counterparts (question B.2). This result seems to be stronger among those with low levels of education who are the ones showing less job stability.

9. Family dependence of the most vulnerable

This section is devoted to analysing the degree of family dependence among those leaving different levels of education in Italy and Spain. As highlighted in question C, we expect that the chances of living with parents will be equally high for both Italians and Spaniards, especially for those who are still students, those who are unemployed looking for a first-time job or those who are employed but in temporary jobs.

In order to investigate question C, we proceed as follows. First, we analyse whether there are cross-country differences in the proportion of people living with the family among Italians and Spaniards who have completed lower, upper and tertiary education, by labour market status,[45] type of contract (for those employed) and type of unemployment (for those unemployed). Second, we investigate the significance of these differences using logit estimation.

Table 9.1 shows the percentage of Italians and Spaniards living with the family among those who have completed lower, upper and tertiary education, by labour market status. In line with table 6.5, the first striking finding is the high numbers of those living with the family in both countries for all educational levels and labour market statuses[46]. The percentage of youngsters who have completed lower-secondary education and are living with their families is close to hundred percent regardless of their labour market status[47]. Among those leaving upper-secondary and tertiary education there are only slight differences in the percentages of people living with the family. These numbers seem to support question C. The larger country differences occur among tertiary educated people aged 30-34. However, we have already pointed out that the group of Spanish tertiary leavers 30-34 years-old constitutes a very selected sample: in Spain, given the early completion of education, young people aged 30-34 are more likely to have entered the labour market in their twenties and therefore more likely to have left the parental home than their Italian counterparts (see the smaller proportions in the Spanish case).

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[44] Further analysis (not reported for space considerations) suggests that around 65% of the individuals in this entry are women.

[45] In this section, the analysis performed includes those individuals who have completed a given level of education and are still studying (we refer to them as "students").

[46] These high numbers irrespective of the educational level completed and the labour market status occupied probably indicate that, as highlighted in section 3.3, there are also cultural factors and factors

Table 9.2 allows us to examine in greater detail the degree of family dependence among those who are employed and unemployed in the two countries. For the group of upper-secondary leavers, the figures suggest the following. On the one hand, the percentage of people with upper-secondary education living with the family among those employed with fixed-term jobs and those unemployed looking for first-time jobs is very high (ranging between 96% and 99%) and similar in both countries. This goes in line with our expectation on the similarities in the role of the family in Italy and Spain (question C). On the other hand, in Italy, the percentage of people co-residing with the family among upper-secondary leavers employed with fixed-term jobs is very similar to the proportion among those with permanent jobs, while in Spain those with permanent jobs seem to be more likely to live independently. These figures could be the result of a self-selection process: in the Spanish sample of upper-secondary leavers (20-24 year-olds), those employed with permanent jobs are probably a special group of more successful youngsters since most employed individuals with their level of education have a fixed-term contract. These more positive outcomes may also be associated with a higher preference for living independently and therefore a higher probability of leaving the parental home.

For the group of tertiary leavers, the numbers are difficult to compare since the group of Italian 25-29 year-olds with tertiary education is likely to have completed tertiary education less than two years before the interview and therefore will have had, on average, less time to "get started" in the labour market than their Spanish counterparts. As previously explained, the group of Spanish tertiary leavers 30-34 years-old also constitutes a selective sample compared with those 30-34 years old with tertiary education in Italy. Given these problems, we have decided to present the distributions for both age groups, keeping in mind that for Italy the true distribution will probably be between the two. If this assumption is true, the numbers would suggest again, as expected in question C, that in both countries among tertiary leavers (those aged 25-34 in Italy and 25-29 in Spain) similar proportions of students, employed with fixed-term contracts and unemployed looking for first-time jobs live with the family.

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related to the functions of the welfare state (mainly social and housing policies) which favour long periods of co-residence of parents and adult off-spring.

[47] Therefore, hereafter we will focus on those with upper-secondary or tertiary education.

The estimation[48] presented in table 9.3 tests for the significance of the differences mentioned above before and after controlling for type of contract and type of unemployment[49]. The results in columns 1-2 show that in both countries those studying and those unemployed are more likely to live with the family than those employed. Students are significantly more likely to co-reside with the family in Spain than in Italy and those with upper-secondary are significantly more likely to depend on the family in Italy than in Spain. Columns 3-4 show that there are no significant country differences in the coefficients of fixed-term contracts and first-time job seekers: in both countries those with fixed-term contracts are more likely to live with the family than those with permanent jobs and among the unemployed, those looking for first-time jobs are more likely to co-reside with their parents than those who have already worked in the past. It is worth remarking that being unemployed with previous job experience or out of the labour forces *versus* having a permanent job leads to greater increases in the probability of living with the family in Spain than in Italy. As expected being female and out of the labour force significantly reduces the chances of living with the family in both countries. The significant difference in the interaction of gender and inactivity could be due to the higher percentage of married women among those out of the labour force in Spain than in Italy.[50] Hence the probability of having left the family for women out of the labour force should be higher in Spain.

To conclude, the analysis performed in this section seems to confirm our expectations (question C): in general, there are no significant country differences in the probability of living with the family for those with temporary jobs or those looking for a first-time job. Students, the unemployed with previous job experience and those out of the labour force have a positive likelihood of living with family in both countries even though this likelihood is stronger in Spain than in Italy.

10. Conclusions

The literature on the transition from school-to-work has often acknowledged the difficulty of classifying Southern European countries within a common model of youth transitions. This paper has tried to throw light upon the possible reasons of differentiation within the Southern European countries focusing on the comparison of Italy and Spain. This study has been an attempt to analyse how macro institutional differences in educational and labour market arrangements could have influenced individual (micro) transitions from school-to-work in Italy and Spain. The comparison of the Italian and Spanish cases has proved to be particularly interesting because of the recent changes which have taken place in the Spanish educational system and labour market. In this paper, we have argued that the extraordinary expansion of tertiary education and the massive use of temporary contracts (especially in the form of fixed- term contracts) have strongly affected young people's labour market outcomes in Spain and have determined the major source of difference with Italy. Indeed, both types of change have occurred in only a very limited way in Italy. On the other hand, we have argued that a third institution, the family, continues to play a central role in young people's transition to work in both countries as the main provider of financial, social and personal support.

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[48] In this section we focus on the samples of lower-secondary and upper-secondary leavers used throughout the paper. However, we have chosen a new sample of tertiary education leavers, namely those aged 25-34 in both countries. We do so because the proportion of individuals 30-34 years old is high in both countries, especially in Italy.

[49] A dummy interacting gender and out of the labour force has been included to control for the fact that in both countries the male-breadwinner model still explains why financially dependent groups, such as "not-employed women", may be more likely to leave the parental home than other groups. Those aged 30-34 are compared to those 25-29 year olds.

[50] Our estimations give 24% for Spain against 20% for Italy.

To analyse the transition from education to the labour market of young people in Italy and Spain we have selected young people who have recently finished school (lower- and upper-secondary school) or tertiary education and have entered the labour force (in employment, unemployment or inactivity).[51]

In accordance with our expectations, the results of the empirical analyses have confirmed that the labour market position of those with only compulsory education or less is more disadvantaged in Spain than in Italy: they are more likely to be unemployed (but also inactive), employed in atypical contracts (fixed-term contracts and part-time contracts) and to have lower occupational status. We have attributed this result to the faster expansion of tertiary education in Spain which has led to higher competition between people with different levels of educational attainment. Thus, the positions previously occupied by those with only compulsory education are now taken by people with higher educational levels. This has resulted in a crowding-out of the least qualified towards unemployment, unstable employment and lower occupational positions. Another interesting result, strictly linked to this crowding-out effect, is that the marginal returns to higher educational levels, that is the relative advantage of having achieved an educational level above the previous one, are higher in Spain than in Italy. Thus achieving higher educational levels seem to benefit young Spaniards more than Italians. However, the overall returns to education are lower in Spain than in Italy.[52]

The other results presented in the paper have shown that young Italians (whatever their educational level) always have higher chances of being first-time job seekers and long-term unemployed than their Spanish counterparts. We have interpreted these results as a consequence of the widespread use of fixed-term contracts in Spain. Moreover, the use of fixed-term contracts in Spain has maximised job-turnover, increasing job instability among young people during the early stage of their career. This has been confirmed by the analyses of the mobility matrices. Despite the common tendency to maintain the same labour market status occupied one year earlier, young Spanish people are more likely to lose their job than Italians but they are also more likely to acquire a new one when unemployed.

The last analysis which has examined family dependence of young people in relation to their labour market status has confirmed that first job seekers and those in precarious occupational status (that is, working with fixed-term contracts) have significantly higher chances of living with the family. Despite some country differences in the extent to which students, unemployed (with previous job experience) and inactive people are family dependent, this result confirms the strong support that the family offers to their adult children in both countries.

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[51] Since in our data (the national LFS data) there is no information on the date of leaving education we have used a proxy based on the typical graduation age (se section 5).

[52] For example, if upper-secondary graduates now take the jobs previously filled by people with only compulsory education, their overall occupational position becomes lower (the same process can be hypothesised for the university graduates).

The findings presented in this paper show that young Spaniards have different patterns of school-to-work transition than young Italians.[53] Despite these differences and the difficulty of acknowledging the existence of a common model of youth transitions in Southern Europe, this work has pointed out two important similarities which make Italy and Spain very different from the Northern European countries:

1. The vulnerability of young people's position in the labour market. In the Italian case, this vulnerability is manifested in the forms of high risk of long-term unemployment and a long waiting period to gain a first job. In the Spanish case, it takes the forms of a high risk of losing the job and of being employed in temporary jobs but also of being employed in lower occupational positions (due to credential inflation).
2. The strong family dependence of children until adulthood, which leads to other consequences not analysed in this paper such as a delay in new family formation and low fertility rates.

It is our hope that with the availability of data more suitable to this kind of analysis (such as panel, event-history or time series data) these issues will be further explored. We keep them as part of our future research agenda.

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[53] There are some changes in the Italian panorama which may lead to increasing similarities between young Italians and Spaniards: the new educational reforms and labour market changes towards major flexibility.

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Table 2.1: Educational attainment, by age group (1996)

	High	Medium	Low
Age 55-59			
de	19,02%	51,63%	29,34%
es	7,93%	4,97%	87,10%
it	5,10%	14,13%	80,77%
uk	16,85%	25,29%	57,87%
Age 30-34			
de	23,72%	60,66%	15,62%
es	24,88%	21,53%	53,59%
it	9,72%	39,18%	51,11%
uk	24,62%	31,13%	44,25%
Age 25-29			
de	16,82%	67,56%	15,62%
es	32,10%	22,73%	45,17%
it	7,36%	44,68%	47,96%
uk	24,38%	33,19%	42,43%

Source: ECLFS. High means tertiary education (ISCED 5-6); medium refers to upper-secondary education (ISCED 3); low refers to compulsory education or less (ISCED 0-2)

Table 2.2: Activity rates, by gender and age group (1996)

	Males		Females	
	15-24	25-64	15-24	25-64
eu15	49,7	84,2	42,8	60,6
de	53,6	84,0	47,1	64,0
es	43,7	85,2	36,8	48,6
it	43,0	80,2	33,9	45,7
uk	68,4	86,6	60,3	67,9

Source: ECLFS

Table 2.3: Employment rates, by gender and age group (1996)

	Males		Females	
	15-24	25-64	15-24	25-64
eu15	39,3	77,2	33,0	54,1
de	48,0	77,3	43,0	57,7
es	27,7	72,8	19,0	36,4
it	30,1	74,8	20,6	40,1
uk	56,1	79,5	53,5	64,3

Source: ECLFS

Table 2.4: Unemployment rates, by gender and age group (1996)

	Males		Females	
	15-24	25-64	15-24	25-64
eu15	20,9	8,3	22,9	10,8
de	10,5	8,0	8,6	9,8
es	36,6	14,6	48,3	25,1
it	30,0	6,7	39,2	12,3
uk	17,9	8,3	11,3	5,4

Source: ECLFS

Table 2.5: Long-term unemployed among the unemployed, by gender and age group (1996)

	Males		Females	
	15-24	25-64	15-24	25-64
eu15	35,48	49,50	40,26	53,12
de	25,41	46,65	27,43	53,85
es	36,86	49,71	49,04	64,50
it	61,55	64,56	65,07	67,55
uk	28,25	52,98	19,15	31,77

Source: ECLFS

Table 2.6: Part-time jobs among the employed, by gender (1996)

	Males		Females	
	15-24	25-64	15-24	25-64
eu15	14,36	3,82	26,84	31,91
de	5,09	3,21	11,14	36,42
es	8,29	2,29	19,87	16,27
it	5,12	2,73	12,77	12,68
uk	22,41	4,38	36,56	45,77

Source: ECLFS

Table 2.7: Temporary jobs among the employed, by gender (1996)

	Males		Females	
	15-24	25-64	15-24	25-64
eu15	31,89	5,98	30,34	8,20
de	47,28	5,31	39,78	6,13
es	63,25	18,44	64,98	22,42
it	14,63	3,46	16,55	5,52
uk	11,13	3,73	11,90	6,55

Source: ECLFS

Table 6.1: Educational attainment, by type of qualification (age 25-34)

	Italy	Spain
Lower secondary qualification or less	49.5%	49.9%
	(15121)	(13623)
Upper-secondary qualification of which:	42.6%	32.8%
	(13013)	(8965)
Short vocational diploma	19.2%	24.6%
Long vocational and technical diploma	64.0%	29.9%
Academic diploma	16.9%	45.5%
Tertiary qualification of which:	7.9%	17.3%
	(2425)	(4729)
Short degrees	9.9%	43.1%
Long degrees	90.1%	56.9%

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Table 6.2 : Principal activity at the time of the survey (1996), by age group and educational level (total)

	Italy				Spain		
	Lower-second.	Upper-second.	Tertiary (25-29)	Tertiary (30-34)	Lower-second.	Upper-second.	Tertiary (25-29)
Employed	46.4%	47.4%	56.8%	78.7%	36.6%	49.6%	61.3%
	(1037)	(2020)	(508)	(1120)	(938)	(1813)	(1389)
Unemployed	31.0%	40.7%	37.1%	17.1%	38.9%	40.6%	33.4%
	(694)	(1733)	(332)	(244)	(997)	(1485)	(757)
Other status	22.6%	12.0%	6.0%	4.2%	24.4%	9.7%	5.3%
	(505)	(510)	(54)	(60)	(625)	(356)	(120)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Table 6.3: Labour market status by age and educational level (women)

	Italy				Spain		
	Lower-second.	Upper-second.	Tertiary (25-29)	Tertiary (30-34)	Lower-second.	Upper-second.	Tertiary (25-29)
Unemployed:							
First job seekers	80.5%	80.0%	89.1%	65.7%	70.1%	54.9%	62.2%
	(227)	(783)	(180)	(96)	(350)	(482)	(313)
Long-term unemployed	61.0%	66.1%	61.5%	78.5%	38.3%	54.4%	62.0%
	(155)	(621)	(120)	(110)	(191)	(478)	(312)
Employed:							
Fixed term contract	28.4%	20.8%	31.4%	17.3%	84.8%	76.9%	64.1%
	(85)	(185)	(210)	(69)	(212)	(554)	(470)
Training contract	21.4%	7.9%	14.7%	3.7%	10.8%	7.5%	4.0%
	(64)	(70)	(31)	(15)	(27)	(54)	(29)
Part-time job	7.9%	12.2%	14.2%	12.5%	15.4%	19.9%	13.6%
	(29)	(125)	(39)	(67)	(45)	(160)	(111)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Table 6.4 : Labour market status by age and educational level (men)

		Italy				Spain	
	Lower-second.	Upper-second.	Tertiary (25-29)	Tertiary (30-34)	Lower-second.	Upper-second.	Tertiary (25-29)
Unemployed:							
First job seekers	80.3%	84.0%	87.6%	71.4%	62.4%	54.0%	60.2%
	(331)	(633)	(114)	(70)	(311)	(328)	(153)
Long-term unemployed	62.5%	60.6%	52.4%	74.1%	30.5%	41.0%	44.9%
	(237)	(433)	(65)	(69)	(152)	(249)	(114)
Employed:							
Fixed term contract	28.0%	21.3%	26.5%	13.0%	89.1%	76.5%	57.6%
	(150)	(167)	(44)	(44)	(449)	(634)	(424)
Training contract	19.6%	11.6%	16.2%	5.04%	22.6%	6.2%	4.1%
	(105)	(91)	(27)	(17)	(114)	(51)	(19)
Part-time job	3.6%	4.2%	4.1%	6.15%	9.7%	9.5%	11.3%
	(23)	(40)	(9)	(35)	(62)	(94)	(63)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Table 6.5: Distribution of occupational classes by education and country

		Italy			Spain	
	lower secondary	upper secondary	tertiary	lower secondary	upper secondary	tertiary
high-skilled non manual	3.3%	26.6%	80.7%	1.2%	6.5%	63.4%
	(33)	(527)	(1290)	(11)	(117)	(873)
medium-skilled non manual	11.6%	19.3%	9.9%	2.0%	20.7%	24.0%
	(117)	(382)	(159)	(19)	(371)	(330)
low-skilled non manual	18.9%	20.3%	6.1%	26.3%	30.9%	8.0%
	(190)	(401)	(98)	(246)	(555)	(110)
skilled manual	54.2%	28.7%	2.4%	38.4%	23.1%	2.4%
	(545)	(568)	(39)	(359)	(414)	(33)
unskilled manual	11.9%	5.1%	0.8%	32.0%	18.8%	2.2%
	(120)	(100)	(13)	(299)	(338)	(30)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Note: In this table young people with tertiary qualification in Italy are selected among those aged 25-34 and in Spain among those aged 25-29.

Table 6.6: Linkages with the family of origin, by age group and level of education

		Italy			Spain	
	Lower-second.	Upper-second.	Tertiary	Lower-second.	Upper-second.	Tertiary
Living with family	98.9%	97.1%	62.8% [a]	99.3%	97.8%	61.7% [a]
	(11491)	(8133)	(1522)	(9302)	(9285)	(2917)
Family worker	14.8%	5.9%	2.4%	16.6%	6.9%	1.0%
	(148)	(116)	(39)	(155)	(123)	(17)

Note: In this table those with tertiary qualification in Spain are selected among the age group 25-34 as well as in Italy.

[a] The percentages of women living with their family of origin is lower: 58.4% in Italy (67.8% for men) and 59.2% in Spain (65.4% for men).

Table 7.1: Multinomial logit estimation of the chances of being unemployed or in other statuses (inactive) versus employed (significant country differences are in bold)

	Unemployed/ employed		Other/ employed	
	Italy	Spain	Italy	Spain
Intercept	**-0.51*****	**-0.17*****	**-0.95*****	**-0.28*****
	(0.05)	**(0.05)**	**(0.06)**	**(0.07)**
Female	**0.24*****	**0.54*****	**0.48*****	**-0.38*****
	(0.04)	**(0.04)**	**(0.06)**	**(0.07)**
Upper-sec. qualification	**0.23*****	**-0.30*****	**-0.68*****	**-1.19*****
	(0.05)	**(0.05)**	**(0.07)**	**(0.07)**
Tertiary qualification (25-29)	**-0.28*****	**-0.47*****	-0.89***	-0.77***
	(0.07)	**(0.06)**	(0.15)	(0.11)
Tertiary qualification (age 30-34)	-1.09***	-	-0.67***	-
	(0.10)		(0.19)	

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: Spanish people, men and those with a lower-secondary education or less.

Total number of cases: 8817 in Italy and 8480 in Spain

Table 7.1b: Multinomial logit estimation of the chances of being unemployed or in other statuses (inactive) versus employed (distinguishing among areas of the countries and types of qualifications)

	Unemployed/ employed		Other/ employed	
	Italy	Spain	Italy	Spain
Intercept	**0.18****	**-0.08**	**-0.36*****	**-0.14***
	(0.06)	**(0.06)**	**(0.07)**	**(0.07)**
Female	**0.26*****	**0.55*****	**0.47*****	**-0.39*****
	(0.05)	**(0.04)**	**(0.07)**	**(0.07)**
Upper-sec. qualification (academic qualif.)	**0.86*****	**-0.08**	**0.56*****	**-0.94*****
	(0.14)	**(0.07)**	**(0.15)**	**(0.10)**
Short voc. qualif.	**-0.96*****	**-0.16***	**-1.58*****	**-0.39****
	(0.15)	**(0.08)**	**(0.19)**	**(0.14)**
Long voc. qualif.	-0.24	-0.42***	**-1.06*****	**-0.24**
	(0.13)	(0.08)	**(0.15)**	**(0.13)**
Tertiary qualification (25-29)	-0.78***	-0.53***	**-2.08*****	**-0.87*****
	(0.15)	(0.08)	**(0.21)**	**(0.15)**
Tertiary qualification (30-34) (long degree)	-1.23***	-	-0.77***	-
	(0.10)		(0.19)	
Short degree (versus long degree)	-0.007	-0.30***	0.37	-0.25
	(0.17)	(0.09)	(0.28)	(0.19)
North-West	-1.56***	-	-1.26***	-
	(0.06)		(0.09)	
North-East/ Centre	-1.68***	-	-1.16***	-
	(0.06)		(0.08)	
Area of Sustainable Growth	-	-0.39***	-	-0.44***
		(0.05)		(0.08)
Area of Industrial Decline	-	-0.05	-	-0.25
		(0.08)		(0.14)
South/South-East	-	0.09	-	0.06
		(0.06)		(0.09)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996.

Reference categories: Spanish people, men and those with a lower-secondary education or less and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla-Mancha, Galicia, Canarias and Ceuta-Melilla).

Total number of cases: 8817 in Italy and 8480 in Spain.

Table 7.2: Logit estimation of the chances of having an atypical contract for the pooled sample of employees (significant country differences are in bold)

	Training Contract		Fixed-term Contract		Part-time Contract	
	Italy	Spain	Italy	Spain	**Italy**	**Spain**
Intercept	-1.30***	-1.39***	**-0.96*****	**1.93*****	**-3.38*****	**-2.25*****
	(0.09)	(0.10)	**(0.08)**	**(0.11)**	**(0.15)**	**(0.11)**
Female	-0.18*	-0.25*	0.07	0.08	**1.01*****	**0.58*****
	(0.10)	(0.13)	(0.08)	(0.08)	**(0.11)**	**(0.09)**
Upper-sec. qualification	-0.84***	-1.12***	**-0.40*****	**-0.78*****	0.36**	0.16
	(0.12)	(0.13)	**(0.09)**	**(0.12)**	(0.16)	(0.12)
Tertiary qualification (25-29)	**0.54*****	**-0.51*****	**0.43*****	**-0.73*****	**0.13**	**-0.21****
	(0.16)	**(0.17)**	**(0.12)**	**(0.08)**	**(0.17)**	**(0.10)**
Tertiary qualification	-1.39***	-	-0.82***	-	0.007	-
(age 30-34)	(0.23)		(0.15)		(0.18)	

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: men and those with a lower-secondary education or less.

Total number of cases in columns 1-4: 3619 in Italy and 3494 in Spain.

Total number of cases in columns 5-6: 4579 in Italy and 4099 in Spain.

Table 7.2b: Logit estimation of the probability of having an atypical contract for the pooled sample of employees (distinguishing among areas of the countries and types of qualifications)

	Training Contract		Fixed-term Contract		Part-time Contract	
	Italy	Spain	Italy	Spain	Italy	Spain
Intercept	-1.40***	-1.48***	**-0.82*****	**1.88*****	**-3.48*****	**-2.30*****
	(0.12)	(0.14)	**(0.10)**	**(0.12)**	**(0.17)**	**(0.13)**
Female	-0.19*	-0.23*	-0.06	0.09	**1.00*****	**0.59*****
	(0.10)	(0.13)	(0.08)	(0.08)	**(1.12)**	**(0.09)**
Upper-sec. qualification	-0.56	-1.04***	**-0.26**	**-1.02*****	**1.07*****	**0.47*****
(academic qualif.)	(0.35)	(0.19)	**(0.27)**	**(0.15)**	**(0.30)**	**(0.14)**
Short voc. qual.	-0.72**	-0.18	**-0.41**	**0.27***	-1.06***	-0.46***
	(0.38)	(0.25)	**(0.29)**	**(0.14)**	(0.32)	(0.16)
Long voc. qual.	-0.20	-0.03	-0.01	0.46**	-0.69**	-0.51***
	(0.35)	(0.24)	(0.27)	(0.14)	(0.28)	(0.16)
Tertiary qualification (25-29)	0.36	-0.11	**0.33**	**-0.39*****	-0.59*	-0.32**
(long degree)	(0.36)	(0.24)	**(0.28)**	**(0.13)**	(0.31)	(0.14)
Tertiary qualification (30-34)	-1.40***		-0.85***		0.02	
(long degree)	(0.23)		(0.15)		(0.18)	
Short degree	-1.09**	-1.34***	-0.23	-0.18	**0.10**	**-0.44*****
(versus long degree)	(0.52)	(0.36)	(0.25)	(0.11)	**(0.27)**	**(0.16)**
North-West	-0-09	-	-0.37***	-		-
	(0.14)		(0.10)			
North-East/	0.30**	-	-0.09	-		-
Centre	(0.13)		(0.09)			
Area of Sustainable Growth	-	0.06	-	-0.02		0.05
		(0.15)		(0.09)		(0.11)
Area of Industrial Decline	-	0.14	-	0.23		-0.06
		(0.25)		(0.15)		(0.18)
South/South-East	-	0.19	-	0.16		0.09
		(0.17)		(0.12)		(0.13)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: men, those with a lower-secondary education or less and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla).

Table 7.3: Multinomial logit estimation of the chances of entering different occupational classes contrasted to Class V (unskilled manual) (significant country differences are in bold)

	Highly-skilled non-manual/ unskilled manual		Medium-skilled non-manual/ unskilled manual		Low-skilled non-manual/ unskilled manual		Skilled manual/ unskilled manual	
	Italy	Spain	Italy	Spain	Italy	Spain	Italy	Spain
Intercept	**-1.59*****	**-3.68*****	**-0.58*****	**-3.42*****	**0.13**	**-0.88*****	**1.74*****	**0.25***
	(0.20)	**(0.31)**	**(0.15)**	**(0.24)**	**(0.13)**	**(0.10)**	**(0.11)**	**(0.11)**
Female	**0.65*****	**1.13*****	**1.07*****	**1.65*****	**0.70*****	**1.69*****	**-0.76*****	**-0.38****
	(0.15)	**(0.14)**	**(0.16)**	**(0.13)**	**(0.15)**	**(0.11)**	**(0.15)**	**(0.13)**
Upper-sec. qualification	2.91***	2.20***	**1.30*****	**2.79*****	0.88***	0.63***	0.26	-0.02
	(0.22)	(0.32)	**(0.17)**	**(0.25)**	(0.16)	(0.11)	(0.14)	(0.10)
Tertiary qualification	**2.99*****	**4.36*****	**1.26*****	**2.20*****	0.69*	0.70**	-0.70*	-0.08
	(0.30)	**(0.21)**	**(0.31)**	**(0.20)**	(0.31)	(0.22)	(0.33)	(0.26)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: men, those with a lower-secondary education or less and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla).

Total number of cases: 4582 in Italy and 4105 in Spain.

Table 7.3b: Multinomial logit estimation of the chances of entering different occupational classes contrasted to Class V (unskilled manual) (distinguishing among areas of the countries and types of qualifications)

	Highly-skilled non-manual/ unskilled manual		Medium-skilled non-manual/ unskilled manual		Low-skilled non-manual/ unskilled manual		Skilled manual/ unskilled manual	
	Italy	Spain	Italy	Spain	Italy	Spain	Italy	Spain
Intercept	**-1.90*****	**-3.71*****	**-0.84*****	**-3.45*****	**0.13**	**-1.01*****	**1.18*****	**0.26***
	(0.22)	**(0.32)**	**(0.17)**	**(0.25)**	**(0.15)**	**(0.13)**	**(0.14)**	**(0.11)**
Female	**0.65*****	**1.14*****	**1.07*****	**1.64*****	**0.68*****	**1.69*****	**-0.82*****	**-0.38****
	(0.15)	**(0.14)**	**(0.16)**	**(0.13)**	**(0.15)**	**(0.11)**	**(0.15)**	**(0.13)**
Upper-sec. qualification (academic)	1.96***	2.40***	**0.94****	**2.96*****	0.73*	0.90***	-0.69	-0.47
	(0.44)	(0.35)	**(0.40)**	**(0.26)**	(0.38)	(0.15)	(0.40)	(0.16)
Short voc. qualif.	**0.18**	**-1.12*****	-0.50	-1.05***	**0.30**	**-0.60*****	1.17**	0.45*
	(0.45)	**(0.29)**	(0.45)	(0.20)	**(0.42)**	**(0.17)**	(0.44)	(0..18)
Long voc. qualif.	**1.12****	**0.15**	0.53	0.07	0.09	-0.29	0.62	0.70***
	(0.42)	**(0.25)**	(0.40)	(0.19)	(0.39)	(0.18)	(0.41)	(0.19)
Tertiary qualif. (long degree)	4.10***	4.62***	1.75***	2.31***	0.71	0.38	0.25	-0.09
	(0.50)	(0.35)	(0.50)	(0.34)	(0.49)	(0.36)	(0.53)	(0.48)
Short degree	-1.76**	-1.10**	-1.53*	-0.77*	-0.07	-0.10	-0.34	0.63
	(0.57)	(0.38)	(0.62)	(0.39)	(0.60)	(0.42)	(0.68)	(0.54)
North-West	0.50*	-	0.52**	-	-0.004	-	0.94***	-
	(0.20)		(0.20)		(0.20)		(0.19)	
North-East/ Centre	0.56**	-	0.40*	-	0.05	-	0.93***	-
	(0.18)		(0.18)		(0.18)		(0.17)	
Area of Sustainable Growth	-	0.20	-	0.36*	-	0.29*	-	0.25*
		(0.16)		(0.14)		(0.13)		(0.12)
Area of Industrial Decline	-	0.13	-	-0.02	-	0.31	-	0.30
		(0.25)		(0.24)		(0.21)		(0.20)
South/South-East	-	-0.003	-	-0.006	-	0.07	-	-0.38**
		(0.19)		(0.17)		(0.14)		(0.14)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: men, those with a lower-secondary education or less and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla).

Total number of cases: 4582 in Italy and 4105 in Spain

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Table 8.1: Logit estimation of the chances of being a first-time job seeker or long-term unemployed (significant country differences are in bold)

	First-time job seeker		Long-term unemployed	
	Italy	Spain	Italy	Spain
Intercept	**1.48*****	**0.60*****	**0.41*****	**-0.91*****
	(0.10)	**(0.07)**	**(0.08)**	**(0.07)**
Female	**-0.17***	**0.13***	**0.18****	**0.51*****
	(0.09)	**(0.07)**	**(0.07)**	**(0.07)**
Upper-sec. qualification	**0.11**	**-0.50*****	**0.04**	**0.56*****
	(0.11)	**(0.08)**	**(0.09)**	**(0.08)**
Tertiary qualification (25-29)	0.55***	0.27***	**-0.25****	**0.26*****
	(0.18)	(0.09)	**(0.12)**	**(0.09)**
Tertiary qualification (30-34)	-1.29***	-	0.87***	-
	(0.10)		(0.19)	

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996
Reference categories: men and those with a lower-secondary education or less.
Total number of cases: 3003 (2838 in columns 3-4) in Italy and 3239 in Spain.

Table 8.1b: Logit estimation of the chances of being a first-time job seeker or long-term unemployed (distinguishing among areas of the countries and types of qualifications)

	First-time job seeker		Long-term unemployed	
	Italy	Spain	Italy	Spain
Intercept	**1.76*****	**0.71*****	**0.62*****	**-0.87*****
	(0.11)	**(0.09)**	**(0.09)**	**(0.09)**
Female	**-0.05**	**0.14***	**0.30*****	**0.53*****
	(0.09)	**(0.07)**	**(0.08)**	**(0.07)**
Upper-sec. Qualification (academic qualif.)	**0.40***	**-0.36*****	**0.06**	**0.54*****
	(0.24)	**(0.10)**	**(0.19)**	**(0.10)**
Short voc. qualif.	-0.65**	-0.34***	0.34	0.11
	(0.27)	(0.12)	(0.23)	(0.12)
Long voc. qualif.	-0.11	-0.15	0.02	-0.05
	(0.23)	(0.13)	(0.18)	(0.13)
Tertiary qualification (25-29) (long degree)	**0.55***	**0.36*****	**-0.24**	**0.28****
	(0.29)	**(0.13)**	**(0.21)**	**(0.12)**
Tertiary qualification (30-34) (long degree)	-1.45***		0.91***	
	(0.23)		(0.19)	
Short degree (versus long degree)	-0.97***	-0.60***	0.55*	-0.006
	(0.33)	(0.15)	(0.33)	(0.15)
North-West	-0.85***	-	-0.70***	-
	(0.12)		(0.11)	
North-East/ Centre	-1.16***	-	-1.13 ***	-
	(0.11)		(0.10)	
Area of Sustainable Growth	-	-0.27***	-	-0.26***
		(0.09)		(0.09)
Area of Industrial Decline	-	0.10	-	0.16
		(0.13)		(0.12)
South/South-Est	-	-0.07	-	0.07
		(0.09)		(0.09)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996
Reference categories: men, those with a lower-secondary education or less and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla).

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Table 8.2: Transition probability matrices for lower-secondary leavers

Italy	S	U	O	E	Sample
U	0.03	0.62	0.06	0.30	729
O	0.13	0.08	0.67	0.12	458
E	0.01	0.07	0.04	0.88	659

Spain	S	U	O	E	Sample
U	0.02	0.44	0.19	0.35	769
O	0.15	0.20	0.54	0.11	460
E	0.02	0.12	0.18	0.68	617

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Table 8.3: Transition probability matrices for upper-secondary leavers

Italy	S	U	O	E	Sample
U	0.03	0.68	0.07	0.22	1,598
O	0.09	0.30	0.33	0.28	453
E	0.02	0.05	0.04	0.89	1,519

Spain	S	U	O	E	Sample
U	0.02	0.59	0.06	0.33	1,155
O	0.17	0.31	0.20	0.32	357
E	0.05	0.13	0.04	0.78	1,290

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Table 8.4: Transition probability matrices for tertiary education leavers, by age group

Italy (25-29)	S	U	O	E	Sample
U	0.01	0.67	0.04	0.27	247
O	0.01	0.37	0.26	0.36	81
E	0.01	0.02	0.00	0.97	342

Spain (25-29)	S	U	O	E	Sample
U	0.02	0.61	0.03	0.34	644
O	0.04	0.39	0.32	0.25	110
E	0.01	0.08	0.02	0.89	1,062

Italy (30-34)	S	U	O	E	Sample
U	0.00	0.67	0.02	0.31	275
O	0.00	0.10	0.66	0.24	71
E	0.00	0.02	0.01	0.97	1,014

Table 9.1: Percentages of lower-secondary, upper-secondary and tertiary leavers living with the family, by labour market status

	Lower-secondary		Upper-secondary		Tertiary, by age groups			
	Italy	Spain	Italy	Spain	Italy (25-29)	Spain (25-29)	Italy (30-34)	Spain (30-34)
Student	99.38%	99.88%	98.86%	99.42%	91.25%	95.64%	85.19%	67.8%
	(7960)	(4836)	(4066)	(5806)	(73)	(263)	(23)	(59)
Unemployed	99.28%	98.29%	97.92%	96.43%	90.66%	92.60%	70.9%	60.8%
	(689)	(980)	(1697)	(1432)	(301)	(701)	(173)	(375)
Employed	95.76%	99.15%	94.50%	92.13%	78.15%	75.09%	18.33%	19.47%
	(993)	(924)	(1909)	(1719)	(397)	(1043)	(504)	(535)
Other	93.86%	95.84%	90.39%	94.82%	74.07%	70.83%	45%	32.6%
	(474)	(599)	(461)	(328)	(40)	(85)	(11)	(22)

Table 9.2: Percentages of lower-secondary, upper-secondary and tertiary leavers living with the family, by type of contract (for those employed) and previous job experience (for those unemployed)

	Lower-secondary		Upper-secondary		Tertiary, by age groups			
	Italy	Spain	Italy	Spain	Italy (25-29)	Spain (25-29)	Italy (30-34)	Spain (30-34)
Employed:								
Fixed-term contract	95.74%	98.79%	96.02%	96.63%	85.45%	78.88%	61.06%	44.33%
	(225)	(653)	(338)	(1148)	(94)	(579)	(69)	(180)
Permanent contract	94.82%	94.62%	94.25%	88.64%	74.44%	68.93%	41%	26.14%
	(568)	(88)	(1246)	(320)	(198)	(315)	(255)	(264)
Unemployed:								
First-time job seeker	99.64%	98.64%	98.52%	99.26%	91.50%	95.49%	81.93%	78.81%
	(556)	(652)	(1395)	(804)	(269)	(445)	(136)	(93)
Previously employed	97.79%	97.62%	95.27%	93.04%	84.21%	87.97%	47.44%	52.53%
	(133)	(328)	(302)	(628)	(32)	(256)	(37)	(135)

Table 9.3: Logit estimation of the chances of living with the family for lower-secondary, upper-secondary and tertiary leavers aged 25-34 (significant country differences are in bold)

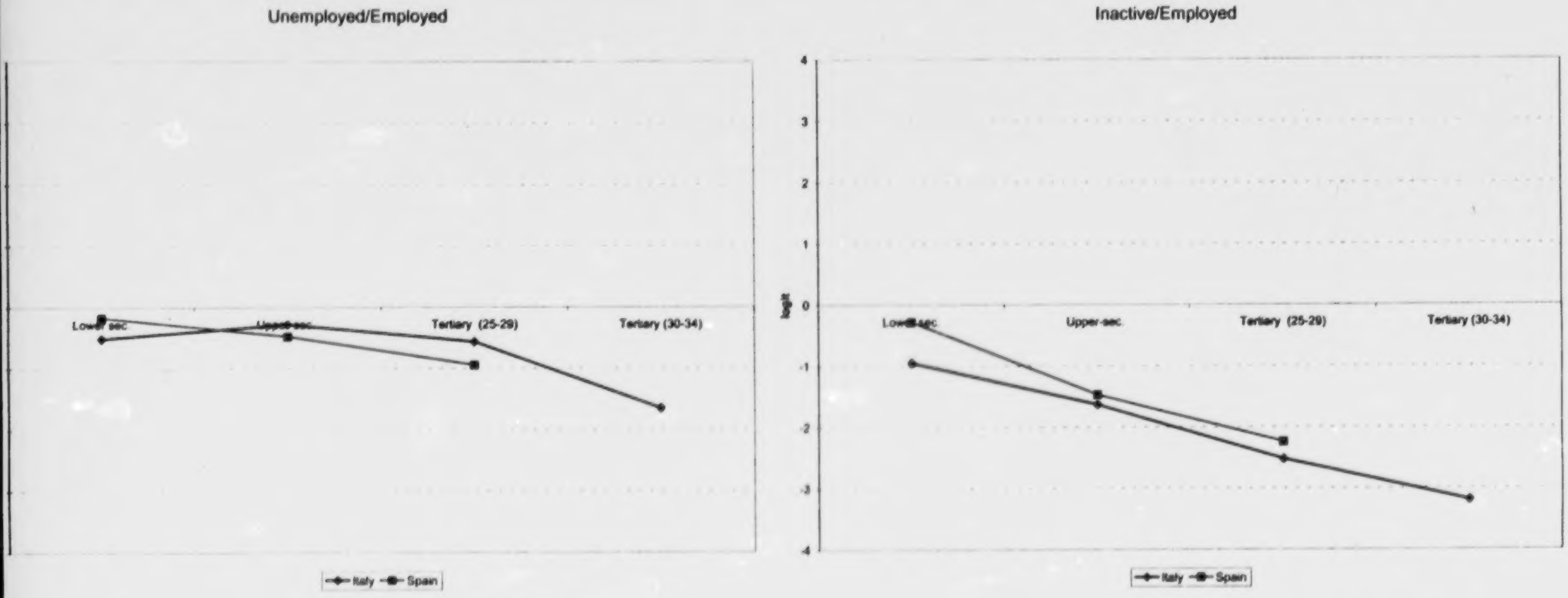
	Italy	Spain	Italy	Spain
Intercept	3.67***	4.00***	3.53***	3.43***
	(0.14)	(0.15)	(0.14)	(0.16)
Female	-0.73***	-0.65***	-0.55***	-0.45***
	(0.08)	(0.06)	(0.08)	(0.07)
Female & Out of labour force	-	-	**-1.86*** **	**-3.27*** **
			(0.34)	**(0.39)**
Upper-secondary	**-0.47*** **	**-0.92*** **	**-0.60*** **	**-1.01*** **
	(0.11)	**(0.15)**	**(0.12)**	**(0.15)**
Tertiary qualif. (25-29)	-1.55***	-1.49***	-1.64***	-1.46***
	(0.12)	(0.09)	(0.12)	(0.09)
Tertiary qualif. (30-34)	**-1.51*** **	**-2.00*** **	**-1.34** **	**-1.73*** **
	(0.11)	**(0.07)**	**(0.11)**	**(0.07)**
Fixed-term contract	-	-	0.64***	0.81***
			(0.14)	(0.08)
Unemployed	1.18***	1.13***	**0.39** **	**1.003*** **
	(0.11)	(0.08)	**(0.16)**	**(0.10)**
First-time job seeker	-	-	1.29***	1.30***
			(0.19)	(0.16)
Student	**1.74*** **	**2.31*** **	**1.82*** **	**2.78*** **
	(0.12)	**(0.13)**	**(0.13)**	**(0.14)**
Other	-0.54 ***	-0.46***	**0.99 *** **	**2.31*** **
	(0.12)	(0.11)	**(0.32)**	**(0.37)**
North-West	-0.14	-	-0.12	-
	(0.09)		(0.10)	
North-East/ Centre	0.14 (0.09)	-	0.15 (0.09)	-
Area of Sustainable Growth	-	-0.06	-	-0.05
		(0.07)		(0.07)
Area of Industrial Decline	-	0.29**	-	0.29**
		(0.11)		(0.11)
South/South-East	-	-0.01	-	0.006
		(0.09)		(0.09)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

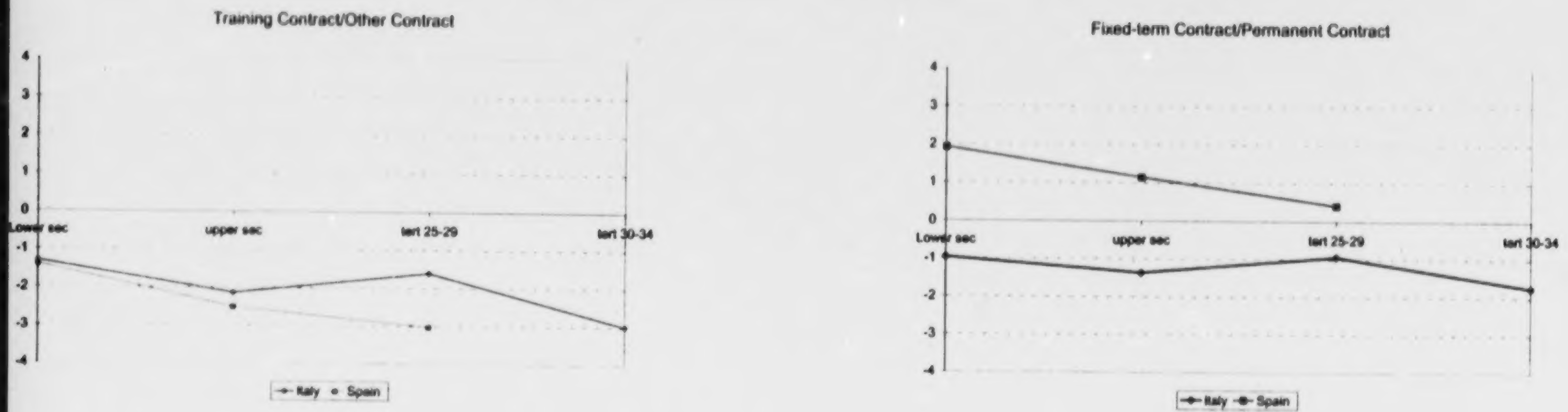
Reference categories: men, those with lower-secondary, employed (with permanent contracts in columns 3-4) and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla).

Total number of cases: 19981 in Italy and 20754 in Spain.

Graph 7.1: The effect of education on the chances of being unemployed or inactive versus employed



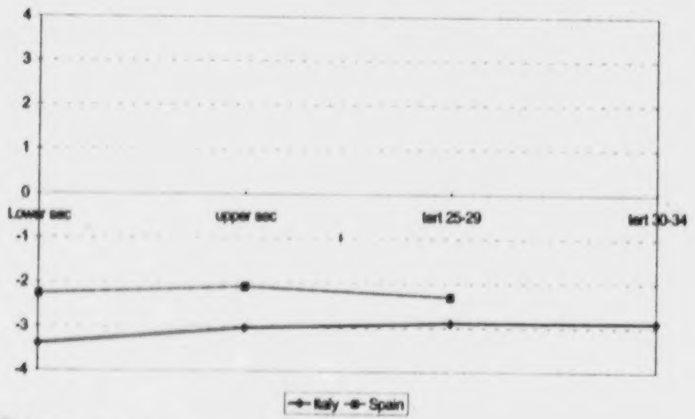
Graph 7.2: The effect of education on the chances of having atypical contracts



Training Contract/Other Contract

Fixed-term Contract/Permanent Contract

Part-time/Full-time



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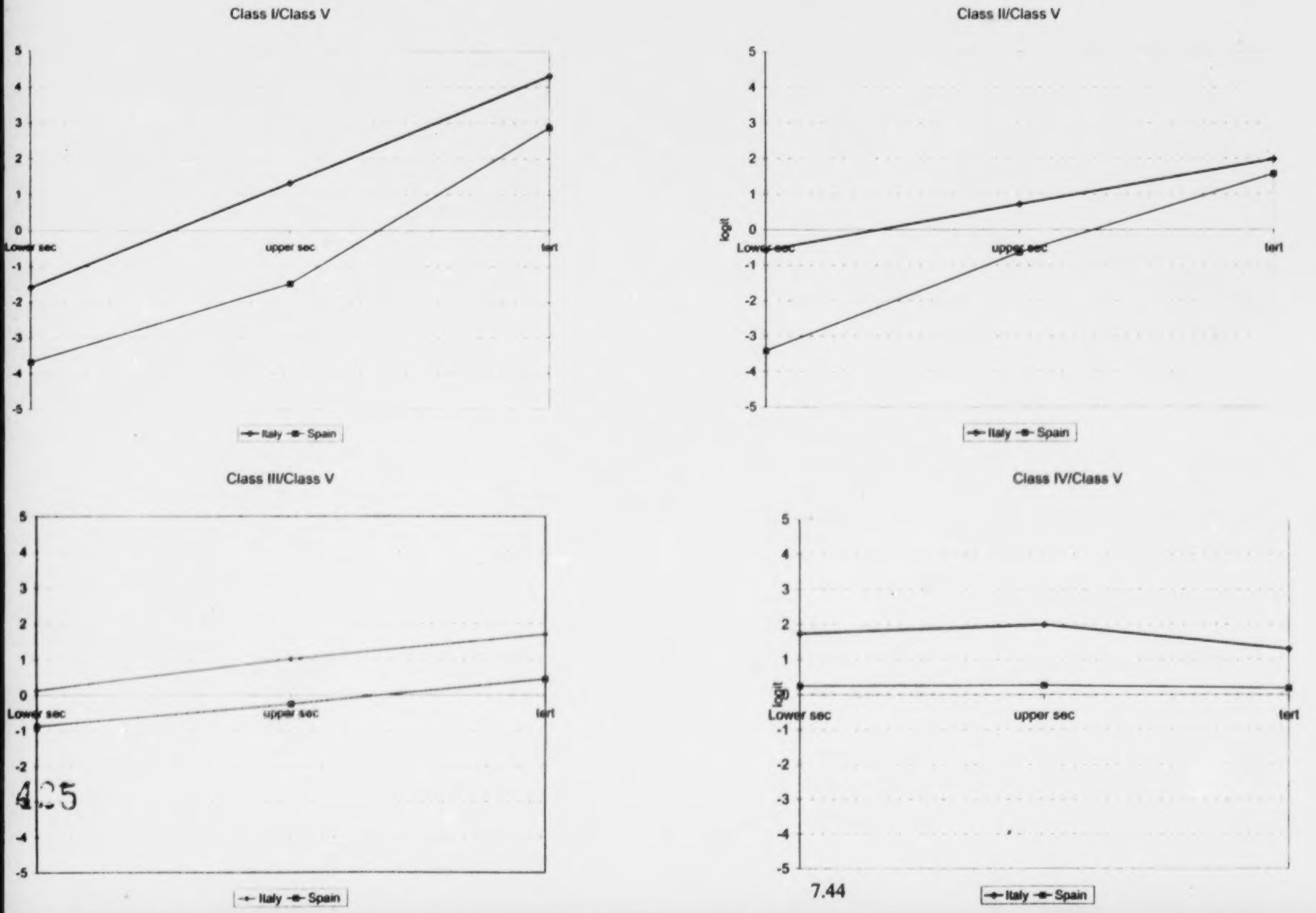
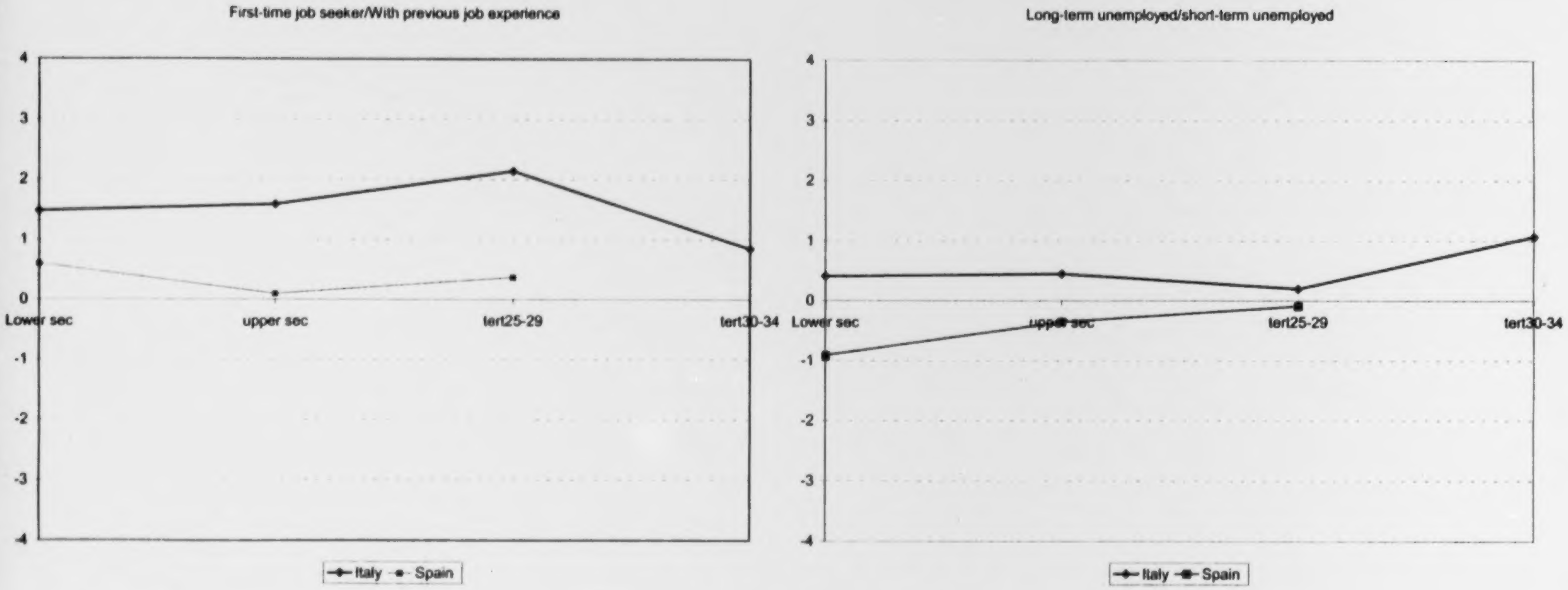
Graph 7.3: The effect of education on the chances of gaining different occupational status



Graph 8.1: The effect of education on the chances of having different types of unemployment



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APPENDIX

Table A.1: Logit estimation of the chances of having an atypical contract for the pooled sample of employees, controlling for sector of activity (significant country differences are in bold)

	Training Contract		Fixed-term Contract		Part-time Contract	
	Italy	Spain	Italy	Spain	Italy	Spain
Intercept	-1.08***	-0.75***	**-0.16**	**1.70***	**-2.84*****	**-1.47*****
	(0.22)	(0.24)	**(0.16)**	**(0.17)**	**(0.24)**	**(0.19)**
Female	-0.29***	-0.21	**-0.08**	**0.15*****	**0.82*****	**0.32*****
	(0.11)	(0.13)	**(0.08)**	**(0.08)**	**(0.12)**	**(0.10)**
Upper-sec. qualification	-0.92***	-1.19***	-0.44***	-0.66***	0.21	0.13
	(0.12)	(0.14)	(0.10)	(0.12)	(0.17)	(0.12)
Tertiary qualification (25-29)	**0.58*****	**-0.91*****	**0.29****	**-0.67*****	-0.01	-0.37***
	(0.17)	**(0.19)**	**(0.13)**	**(0.09)**	(0.18)	(0.12)
Tertiary qualification (30-34)	-1.39***	-	**-0.93*****	-		-
	(0.23)		**(0.15)**			
North-West	-0.24	-	-0.37***	-	0.26*	-
	(0.15)		(0.11)		(0.14)	
North-East/ Centre	0.20*	-	-0.06	-	0.11	-
	(0.13)		(0.10)		(0.14)	
Area of Sustainable Growth	-	0.06	-	-0.05	-	0.13
		(0.15)		(0.09)		(0.11)
Area of Industrial Decline	-	0.18	-	0.20	-	-0.09
		(0.25)		(0.15)		(0.18)
South/South-East	-	0.28	-	0.18	-	0.07
		(0.17)		(0.12)		(0.13)
Agriculture, ind. of energy and extraction	-0.44	-1.81***	-0.21	0.47	-0.61**	-0.57**
	(0.34)	(0.50)	(0.23)	(0.30)	(0.30)	(0.24)
Manufacture	0.05	-0.53**	-0.67***	0.25*	-1.00***	-1.40***
	(0.19)	(0.23)	(0.14)	(0.14)	(0.20)	(0.20)
Construction	-0.58**	-0.47*	-0.84***	0.52***	-1.31***	-1.31***
	(0.29)	(0.27)	(0.21)	(0.19)	(0.44)	(0.25)
Trade, hotels, restaurants	-0.45**	-1.15***	-0.63***	0.15	-0.18	-0.56***
	(0.22)	(0.24)	(0.15)	(0.13)	(0.18)	(0.15)
Transport & communication	0.09	-0.54	-0.08	0.006	0.13	-1.20***
	(0.35)	(0.43)	(0.24)	(0.22)	(0.31)	(0.35)
Finance and property	-0.63	-0.27	-1.35***	-0.39**	-0.78***	-1.47***
	(0.34)	(0.40)	(0.26)	(0.20)	(0.31)	(0.38)
Services for enterprises	0.40*	0.01	-0.32	0.28*	-0.18	-0.72***
	(0.22)	(0.26)	(0.17)	(0.16)	(0.19)	(0.19)
Public adm., defence, social insur.	-1.44***	-0.50	-0.55***	-0.86***	-0.42	-1.38***
	(0.44)	(0.33)	(0.20)	(0.17)	(0.28)	(0.30)
Services in the public sector	0 .02	-1.33***	0.03	-0.52***	0.31	0.21
	(0.28)	(0.36)	(0.20)	(0.17)	(0.22)	(0.18)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: men, those with a lower-secondary education or less, living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla-Mancha, Galicia, Canarias and 'Ceuta-Melilla) and working in the sector of 'education, health and social services'.

Total number of cases in columns 1-4: 3552 in Italy and 3494 in Spain.

Total number of cases in columns 5-6: 4509 in Italy and 4099 in Spain.

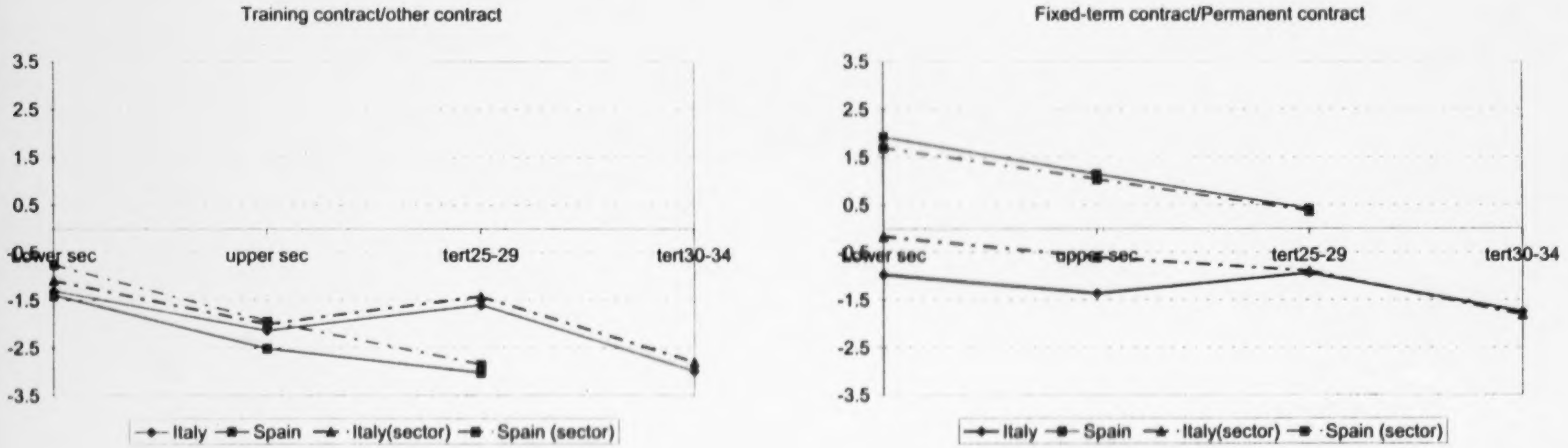
Table A.2: Multinomial logit estimation of the chances of entering different occupational classes contrasted to Class V (unskilled manual), controlling for sector of activity (significant country differences are in bold)

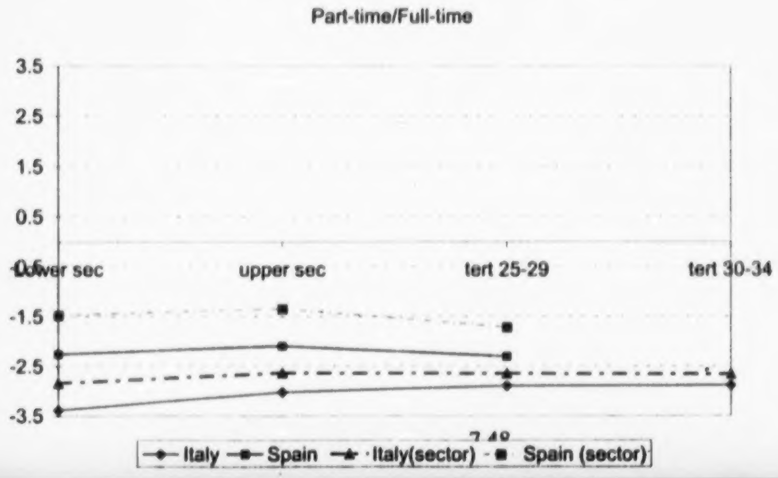
	Highly-skilled non-manual/ unskilled manual		Medium-skilled non-manual/ unskilled manual		Low-skilled non-manual/ unskilled manual		Skilled manual/ unskilled manual	
	Italy	Spain	Italy	Spain	Italy	Spain	Italy	Spain
Intercept	0.11 (0.33)	-0.44 (0.31)	**-1.05**** **(0.35)**	**-2.69***** **(0.34)**	-0.70 (0.37)	-0.34 (0.28)	-0.20 (0.42)	0.01 (0.31)
Female	**0.19** **(0.15)**	**0.60***** **(0.13)**	**0.90***** **(0.15)**	**1.50***** **(0.12)**	**0.60***** **(0.16)**	**1.46***** **(0.12)**	**-0.81***** **(0.15)**	**-0.24** **(0.12)**
Upper-sec. diploma	**2.25***** **(0.21)**	**1.08***** **(0.21)**	**1.04***** **(0.18)**	**1.85***** **(0.19)**	0.50** (0.17)	0.38** (0.12)	0.03 (0.15)	0.14 (0.11)
Tertiary degree	**1.76***** **(0.20)**	**3.32***** **(0.18)**	**0.24** **(0.22)**	**1.47***** **(0.17)**	0.05 (0.23)	0.51** (0.18)	**-0.84***** **(0.24)**	**0.06** **(0.20)**
North-West	0.38* (0.18)	-	0.43* (0.19)	-	0.02 (0.19)	-	0.58*** (0.18)	-
North-East/ Centre	0.46** (0.17)	-	0.34 (0.18)	-	0.14 (0.18)	-	0.59*** (0.17)	-
Area of Sustainable Growth	-	0.32* (0.15)	-	0.33* (0.14)	-	0.32* (0.13)	-	0.16 (0.13)
Area of Industrial Decline	-	0.14 (0.23)	-	-0.01 (0.22)	-	0.25 (0.21)	-	0.13 (0.20)
South/South-East	-	-0.05 (0.18)	-	-0.13 (0.17)	-	-0.08 (0.15)	-	-0:32* (0.14)
Agriculture, ind. of energy and extraction	**-1.90***** **(0.34)**	**-3.39***** **(0.41)**	**0.76*** **(0.35)**	**-0.72** **(0.38)**	**-0.67** **(0.43)**	**-2.11***** **(0.38)**	0.93 (0.44)	0.38 (0.33)
Manufacture	-1.48*** (0.30)	-2.05*** (0.28)	0.19 (0.33)	-0.13 (0.31)	**-0.92*** **(0.40)**	**-2.47***** **(0.33)**	2.44*** (0.41)	1.03*** (0.31)
Construction	-1.92*** (0.35)	-2.60*** (0.32)	-1.21** (0.46)	-0.18 (0.33)	**-1.07*** **(0.50)**	**-2.48***** **(0.38)**	1.57*** (0.44)	0.31 (0.32)
Trade, hotels, restaurants	-1.68*** (0.31)	-1.86*** (0.27)	0.01 (0.35)	0.26 (0.30)	**2.44***** **(0.36)**	**0.68*** **(0.27)**	1.26** (0.43)	-0.52 (0.32)
Transport and communication	**-2.21***** **(0.44)**	**-3.58***** **(0.39)**	0.78 (0.44)	-0.01 (0.36)	-0.26 (0.55)	-1.36*** (0.36)	1.16* (0.52)	-1.33** (0.44)
Finance and property	**-0.84*** **(0.43)**	**-2.13***** **(0.47)**	1.72*** (0.45)	1.94*** (0.45)	0.31 (0.53)	-0.21 (0.48)	0.16 (0.61)	-0.18 (0.57)
Services for enterprises	-0.09 (0.38)	-0.88** (0.31)	**1.23**** **(0.41)**	**0.85*** **(0.34)**	-0.05 (0.50)	-0.99** (0.35)	**0.64** **(0.53)**	**-0.92*** **(0.42)**
Public adm., defence, social insur.	**-0.89*** **(0.44)**	**-2.82***** **(0.33)**	1.23 (0.47)	0.07 (0.33)	**1.61***** **(0.49)**	**-1.11***** **(0.33)**	**0.20** **(0.62)**	**-1.31***** **(0.40)**
Services in the public sector	-2.05*** (0.35)	-2.60*** (0.33)	-0.29 (0.38)	-0.27 (0.33)	**1.13**** **(0.39)**	**-0.34** **(0.29)**	-0.50 (0.52)	-1.30*** (0.41)

Source: Own calculations using the Italian and Spanish LFS, 2nd quarter 1996

Reference categories: men, those with a lower-secondary education or less and living in the underdeveloped regions (the South and Islands in Italy and Extremadura, Castilla-Leon, Castilla- Mancha, Galicia, Canarias and Ceuta-Melilla) and working in the sector of 'education, health and social services'.

Graph A.1: The effect of education on the chances of having atypical contracts, with and without controlling for sector of activity





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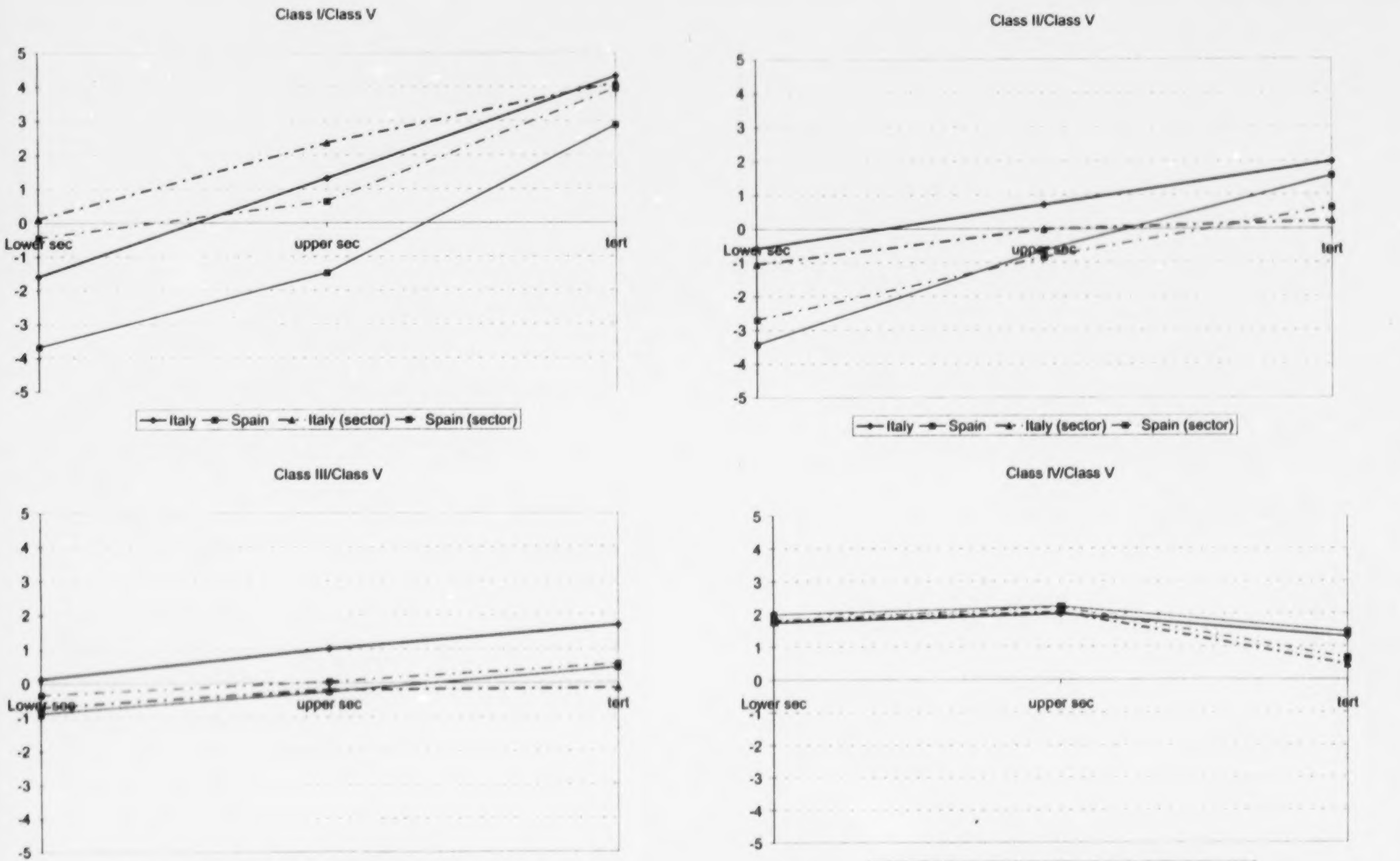
Graph A.2 The effect of education on the chances of gaining different occupational status, *with and without controlling for sector of activity*



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Comparative Analysis of Transitions from Education to Work in Europe

Educational attainment of young people in the European Union: cross-country variation of trends over time

Walter Müller*

Maarten Wolbers**

* Mannheim Centre for European Social Research (MZES)
University of Mannheim
P.O. Box 103462
68131 Mannheim
Germany
E-mail: wmueller@sowi.uni-mannheim.de

** Research Centre for Education and the Labour Market (ROA)
Maastricht University
P.O. Box 616
6200 MD Maastricht
The Netherlands
E-mail: m.wolbers@roa.unimaas.nl

WORKING PAPERS

Abstract

The growth in educational attainment is one of the most fundamental social changes in Europe during recent decades. Nowadays only a small proportion of young people leaves school immediately after compulsory age. On the other hand, increasing levels of youngsters achieve tertiary education. Furthermore, the share of young people that attend any form of vocational education has increased. Lastly, female educational participation rates have risen strongly and differences in the level of education attained by men and women are diminishing or even disappearing. Knowledge about the basic mechanism behind the expansion of education and how it is related to institutional structures and reforms of the various educational systems in Europe is necessary for the understanding of the variability of transition processes from education to work in the European Union. This paper intends to provide this background. Besides a detailed description of the educational systems in the European Union, we document changes in the educational attainment of young people in the member states during the last decades. For this purpose, we make use of data from the European Community Labour Force Surveys (ECLFS) that cover the period 1988-1997.

Introduction

In recent decades educational participation has grown everywhere in Europe, but from different starting points, in different ways and with different results. At the end of the 20th century the educational systems in various countries of Europe probably differ more among each other than ever during this century. The educational systems in different countries have different formal structures. They offer different curricula that are linked in different ways to each other. Also, the levels at which examinations can be taken are hardly comparable one to one. Even the conception of an examination varies. In most of the countries one can pass or fail an examination, in other countries such an executioner's axe does not exist and one can only pass an examination with varying levels of certified competence. The labour market value of more or less equivalent examinations may vary considerably between countries. Many countries have fundamentally changed their educational system in recent decades while others have left their educational systems relatively unchanged. The understanding of the variability of transition processes from education to work in the European Union presupposes knowledge about the basic institutional structures of the educational systems in Europe, of their institutional change in recent decades, as well as of the basic patterns of educational expansion. This paper intends to provide this background. First, we start with a description of the institutional structures and reforms of the different educational systems in the European Union. Second, we present some general results about educational attainment in the member states. Differences in the educational attainment process between men and women are described as well. Our purpose there is to compare the results for young people with those for older persons. Third, we look at the educational attainment of youngsters over their life-course. Is there an age-specific pattern of educational attainment and how does it differ between countries and between birth cohorts? Fourth, the main findings of this paper are summarised in the concluding part of it.

Institutional structures and their reforms

In practically all European countries educational expansion in the post-war decades was connected with more or less fundamental educational reforms for several reasons. Educational reforms were implemented in order to enhance expansion, but also in order to satisfy or to channel the increasing demand for education. Reforms were urged in order to change the unequal distribution of education between gender, social classes, ethic, regional or other social groups (Shavit and Blossfeld, 1993). Other pressures for reform came from the demands of the economy for different qualifications expected to be needed on the labour markets (Becker, 1964; Denison, 1962) or from political pressures to counter social problems (Collins, 1979) such as youth unemployment or general unemployment (Blaug, 1985). The course reforms took were most likely also affected by different educational knowledge, doctrines and ideologies available or dominating in various countries. Evidently depending on the specific aims associated with reforms and depending on the strength of the varying pressures for reforms, the reforms themselves differed. Given this rather large variety of factors it seems rather difficult to single out with strong evidence the relative importance of any specific factor.

In the present paper we build on two starting points or basic hypotheses to understand the course of reforms observed in the various countries. A first starting point of a post-hoc understanding of the educational reforms connected with educational expansion is the observation of a general agreement in most political discourses among interest groups, political and economic leaders as well as among the relevant population groups - in particular parents and their children - that technological, economic and social development lead to an increased demand for higher qualifications.[1] For many years, it was indeed a continued experience that highly qualified jobs grew in number while many of the unqualified jobs disappeared. At any rate these beliefs of a general increase in the demand for qualifications can be assumed to be more widely shared than the conviction and the political will to change the unequal distribution of education among population groups. There are many examples of political opposition against reforms thought to alter the unequal distribution of education. Nowhere has there been serious opposition to increasing the supply of education. Countries certainly differed in the extent to which these concerns found support in the political arena.

A second starting point is an assumption of institutional inertia or institutional path dependency. It is assumed that the existing educational institutions and the national traditions in the set-up of educational institution and in the provision of education affect the course of educational reforms. Reforms build on what is already existing. In the early post war II years - the period before educational expansion - educational systems in Europe were rather similar with respect to the preparation of students for university education. All countries had typical tracks and educational institutions which lead to university education. These parts of the educational systems were well defined and long since established. In this respect countries did not differ very much. Large differences between countries, however did exist concerning vocational qualifications below the tertiary level. In some of the countries opportunities for vocational education were widely spread, in other countries they scarcely existed. Depending on the availability or non-availability of vocational education, educational reforms are expected to differ. Different ideas for reforms should emerge and have different chances for realisation, both on the secondary and on the tertiary level of education.

Given a tendency for institutional inertia and given a rising demand from the labour market for workers with higher skills and qualifications one should expect that in countries with existing systems of vocational education, these systems are used to satisfy the growing demand. Their growth should contribute at least in part to educational expansion. Countries without vocational training and relying mainly on general qualifications could start to build up systems of vocational training. But the more likely alternative is, that they rely on their own established educational traditions and mainly build up their systems of general qualifications. They will enhance educational participation by mainly expanding general education and by reforming their system of general qualifications in order to attract more students and in order to manage and differentiate the growing number of students. An additional consequence will be that in the latter countries the demand for tertiary qualifications grows faster than in the former group of countries. In the following we briefly examine in view of these hypotheses the educational systems and their reforms during the last decades.[2]

Secondary level

On the secondary level, widely spread and formalised systems of vocational education mainly existed in the German speaking countries, in Denmark and in the Netherlands. In the Netherlands, vocational education was mainly organised in schools; in the other countries in the form of apprenticeships at the workplace combined with some formal education in vocational schools. In all of these countries quite large parts of the population received vocational qualifications beyond elementary general education already in the early post war years. In the course of educational expansion these countries basically conserved their institutions of vocational training as a crucial element in their education and training system even though the institutions of vocational training were partly reformed in order to adapt to technological, sectoral and occupational change. Participation in such training increased. At the same time reforms in the system of general education were affected by and designed in view of the parallel system of vocational training. Even if measures were taken to ease the transitions between the different educational tracks, the multi-track character of the educational system with the early separation of the school populations was maintained to a large extent. It is particularly revealing that - with the exception of Scandinavian Denmark - none of these countries introduced major comprehensive elements in their educational systems. From the defenders of early differentiation it is generally argued that the different educational tracks correspond to different abilities, performance and aspirations of children and that early differentiation is effective in preparing children for the varying types and areas of work in the labour market.

In the remaining countries occupation-specific education was less common or hardly existing. These countries tried to solve the increased demand for education and training primarily through reforms and the expansion of school-based, mainly general programmes, because this corresponded to the available practice of educational provision. These programmes kept their more general rather than vocational character. The primary target was to bring as large a proportion of the pupils as possible to as high a level of basic abilities as possible. Connected with the target of equalising educational opportunities, this led to the development of more or less integrated comprehensive schools. They were introduced - although in different versions - in practically all Western European countries without a fully developed vocational training system. Differential allocation of children into different tracks takes place - if necessary - as late in the education process as possible, usually not before the end of

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[1] Some of the sociological theories (see for instance Braverman, 1974; Kern and Schumann, 1970) may have argued against such expectations, but the economic and political leaders rather expected an upgrading of the qualification structure rather than its downgrading or its polarisation.

[2] Based on CEDEFOP, 1982, 1990; OECD, 1995a, 1995b; see also Müller, Steinmann and Schneider, 1997

the tenth school year and is often connected with the transition from the lower to the upper level of secondary education. If in the higher levels of secondary education vocationally-oriented courses were also introduced, then in many countries these courses played a secondary role and often were considered second choice for those who did not succeed in the academic route (Shavit / Müller forthcoming). Since general education programmes remained dominant in the secondary school, in these countries the need and the pressures increased to provide vocationally oriented training on the tertiary level. For these countries one therefore should expect a more varied multiplicity of programmes offered and a stronger growth in educational participation on the tertiary level than in the former group of countries.

This simplifying and stylized representation needs a more detailed account in particular for the United Kingdom. Its education and training system has probably the highest level of institutional multiplicity of all EU member states. There is not only considerable variation between the regional Units of England, Wales, Scotland and Northern Ireland (for a detailed account see Raffe et al. 1999); the institutional setup is also less clearly structured along a few principles. In the United Kingdom the educational system has not been primarily created from above by central state regulation, but developed by initiatives from the civil society. This historical background is mirrored today in a relatively high degree of autonomy of the educational institutions in their organization, day-to-day running, student intake and curricular profile. A further manifestation of these traditions are the private educational institutions which in no other European country play such an important role as in the United Kingdom. Finally, already on the secondary level the pupils have quite large degrees of freedom in their educational choices. They specialize early in the educational career by relatively free selection from various modules offered, and they also choose among different requirement levels. There is even no clear concept of graduating from the secondary level, rather the performances obtained in the individual specialization areas on that level determine then the chances of access into various institutions and programmes at the tertiary level.

As to vocational training, a tradition of vocational qualification in the form of vocational apprenticeships did exist in the UK. However, apprenticeships were not very common, scarcely regulated and - in contrast to the German dual system -without a component of systematic teaching of formal, theoretical or other general knowledge. If a need for such qualifications was felt, it was satisfied in local group-run training centres or ad hoc through attendance of special courses. A large and varied supply of such courses developed in the Further Education sector of the UK training system. Further Education in the UK is not only more common than in other EU countries (see Welters and Wolbers, 1999). It also has several specific institutional characteristics related to other aspects of the UK education and training system. Graduates from both the secondary and the tertiary level of education enter the labour market at comparatively young ages. A substantial part of qualifications are then obtained in tandem to gainful employment, using the rich supply from evening and part time study programmes in institutions of

Further Education.[3] Training is increasingly organised in modules. Students select modules - to a large extent at their own discretion - and accumulate credit points from exams and assessments in single modules. The selection of modules is less strictly constrained by a standard menu for fixed occupations. Rather it variably reflects the interests of the graduates or the assumed usefulness for particular jobs, which are much less conceived according to specific occupational competencies and jurisdictions than in Germany. Even though a large part of the educational institutions still have the primary mission of providing either general, academically oriented, education or vocationally oriented further education, the number of institutions offering modules of both types has increased. The recent reforms in the 1994 education act also make it easier to combine general and vocational secondary qualifications to satisfy the entry requirements for tertiary education (see Raffe et. al. 1998 on the problems of unifying academic and vocational learning).

Tertiary level

Beyond the universalisation of secondary education, in almost all countries a strong expansion of tertiary level education has taken place in recent decades. Almost everywhere this expansion of the tertiary level of education is connected with institutional reforms for the selection, management and channelling of the growing masses of students. Apart from the rising number of students who aim at a classical university education, the tertiary sector expands also by the fact that in most countries for increasingly more work areas training on the tertiary level is considered appropriate. Since with higher education usually higher status and better remuneration are connected, many occupational groups press for academic or semi-academic credentials. In different countries, different groups succeed for different reasons in achieving such professionalisation. Success thereby, however, tends to be greater, the less established traditions of vocational education exist on the secondary level. In Sweden, France and Spain e.g. education and training for nurses and for several other so-called medical auxiliary occupations are in the meantime clearly part of tertiary level education while they are clearly part of the secondary level in those countries which have a strong vocational element at the secondary level such as in Germany, Austria or Switzerland. In the course of the expansion of tertiary level education, the spectrum of qualifications on the tertiary level became more heterogeneous within the individual countries as well as between the countries.

The institutional reforms for the channelling of the growing student population and for the satisfaction of varying needs for education and training led in Europe to a rather varied tertiary education landscape with different principles of organisation, training programmes, exams and certificates. It is extremely difficult to gain a clear representation of this diversity. Simplifying one can crystallise three main types. Two of them can be differentiated according to whether training programmes with differently demanding termination levels are organised in *parallel* or *sequence*. For the time being we consider the UK system a part even though it includes elements of both other types.

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[3] The drawback of the often stressed early integration into working life consists thus in a transition into gainful

A clear example of predominantly *parallel* segmentation is Germany's system of tertiary education. Beside the classical *universities* the sector of the *Fachhochschulen (professional colleges)* was established. This sector is institutionally segmented from the universities. Distinct from the science-oriented universities the Fachhochschulen have developed their own specific training programmes and courses of studies with a profile, which is strongly oriented towards application, practice and occupational identities. There is not much mobility between the two segments of tertiary education. The strong occupational orientation of the Fachhochschulen clearly corresponds to German education traditions. On the tertiary level, a type of training programme is developed, which offers qualifications which are as closely related to specific vocational activities as the vocational qualifications traditionally offered on the secondary level. This analogy to vocational training at the secondary level is still more pronounced in the so called Berufsakademien (occupational academies), in which the dual model of education and training known from the secondary level is replicated on the tertiary level. A similar parallel structure of two major institutions of tertiary education was also established in the Netherlands, in Denmark and Norway. In Austria and in Switzerland reforms are being implemented at present, which will likewise transform the tertiary level of education from one more or less exclusively dominated by the traditional universities toward this model of two parallel segments of tertiary education. Interestingly - with the exception of Norway - all of these are countries with a strong vocational component at the secondary level.

The second type of structure of tertiary education is *sequentially* organised. An example corresponding to a large extent to this model is France. In a somewhat simplified representation the system of tertiary education in France is structured in three cycles usually of two to three years duration. After each cycle a certificate qualifying for gainful employment can be obtained. Access into the following cycle is dependent on the successful completion of the preceding cycle. Along these principles the tertiary education system in France has expanded enormously. However, a large proportion of students is selected out of the educational system into working life after a short study-period of one to two years. The number of those, who are admitted to the higher cycles- sharply selected according to achievements in the system -, has grown only slowly. Likewise the Grandes Écoles have survived educational expansion relatively unchanged. Access to them continues to be highly selective. This solution mirrors the French educational traditions since the French revolution and particularly since Napoleon: An intimate link of the idea of elite formation and elite selection with the idea of just and democratic selection which according to French educational thinking can be accomplished, if the selection takes place according to criteria of performance shown (viz. e.g. Prost 1992; Brauns 199å, 1998b). Belgium, Spain and Portugal followed the French model of a sequential organisation of the tertiary level of education to a large extent.

The third, relatively distinct model developed in the United Kingdom. Several elements of the specific historical traditions on which the recent developments are built have already been described in discussing the secondary level. One important characteristic of the UK system is precisely that the

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employment without specific or with only semi-finished vocational qualifications.

boundary between the secondary and the tertiary level is less clearly marked. First, related to the lack of a concept of graduating at the secondary level of education, the criteria and requirements for access into institutions of tertiary education vary to a large extent. Differences in the required performance and in public recognition between tertiary institutions of the same type are substantially stronger than in Germany or France. Secondly, also the special set-up and development of vocationally oriented training and the strong emphasis of further education has contributed to the today extraordinarily large heterogeneity of the university system in the United Kingdom. In recent years large parts of Further Education became integrated into the UK system of tertiary education. In particular with the integration of the earlier Polytechnics into the university system the variety in the profiles of universities has increased strongly. Many institutions within the university system deliver courses and degrees in a large range of qualifications ranging from higher level vocational training or further education to traditional academic degrees while others have retained a more academic character. Third, in many institutions modularization is increasing. The mixture of students with various educational backgrounds and careers and the composition of those studying full time for their first degree and those who combine work and study to upgrade their qualifications are more varied than in other countries.

Germany, France and the United Kingdom are described here as the basic types of organisation of tertiary education in the countries of the European Union. Other countries have been allocated to one of these types according to closest similarity. Variants of tertiary education institutions with more or less clear similarities to the basic types exist in other European countries. The Republic of Ireland's system has many similarities to the United Kingdom. But it offers even fewer opportunities for vocational training and concentrates even more on the provision of general education. It also lacks the broad supply of Further Education. Sweden developed itself away from its earlier Humboldtian university system and moved toward the English and American university model. Italy, on the contrary, has probably reformed its system of tertiary education least of all European countries. Besides the universities (with the traditional *Laurea* degree) only a few additional educational options on the tertiary level have been created. Furthermore, although the number of students has increased, only very few of them (even fewer than in Germany) accomplish the final degree.

The development of educational attainment in the European Union

How did the educational level of the population change in different European countries since World War II? The best way to answer this question is to look at the differences in achieved education between successive birth cohorts. The younger a cohort is, the more its members should have benefited from the general expansion of educational supply and demand. Therefore, the proportion of highly qualified persons should be higher in younger cohorts, the proportion of less qualified persons should be lower. We focus on two indicators, namely on the lower and upper part of the educational range, based on the seven-level International Standard Classification of Education (ISCED). The first group contains persons with a basic education (usually compulsory schooling) up to a lower secondary level at the most (ISCED0-2). The second group is based on individuals with a broadly

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defined tertiary education; it consists of those who earned degrees beyond the *Abitur*, the *Maturität*, the *Baccalauréat* or beyond other certificates of the upper secondary level (ISCED5-7).

The differentiation of the various kinds of qualification levels and the identification of similar levels across countries is a difficult task, because of the different structures of the educational systems. In particular, it is problematic to establish equivalencies among different tertiary level certificates in different countries. Some countries classify certain programmes as secondary level education, others as tertiary level education. For the current analysis, we use a broad rather than a narrow definition of tertiary degrees, because this is more suitable for the available information from the Community Labour Force Survey (CLFS) data set. However, one has to bear in mind that some degrees are classified as tertiary certificates although they are understood as secondary degrees in the specific country.

The birth cohorts for the analyses are selected in the way that the change of educational participation can be illustrated from the end of World War II to the present (or as close as possible to the present). The oldest cohort is represented by the birth years 1936-1942. Their members were 55-59 years old at the time of the interviews in 1996/97. Many of them are already retired or prepare for their retirement. Essentially, these are student cohorts of the first post-war years. They started school either even during the war or immediately thereafter. The youngest cohort (age group) considered varies depending on the indicator studied. When we study the proportion of a cohort who only obtain lower secondary education, the youngest age group considered are those aged 20-24.[4] When studying the proportions with tertiary qualifications, the youngest age group studied are those aged 25-29.

For the European countries, Figure 1 shows the decrease of lower qualifications in the sequence of cohorts. The highest point of each vertical line in Figure 1 represents the proportion of low qualifications within the oldest cohort; the lowest point indicates the proportion within the youngest cohort. The decrease in the proportion of low qualifications is remarkable.

This is especially true for countries with a very high proportion of low qualifications in the oldest cohort, for example the South European countries, but also France, Belgium, Ireland and Finland. In all other countries, the proportion of low qualifications within the oldest cohort is significantly smaller, but for different reasons. Early on, Scandinavia promoted a high level of general education by introducing comprehensive schools. In Germany and its neighbouring countries (Austria, The Netherlands, and Denmark) the proportions of low qualifications are small, because in these countries vocational training systems have been long since established. In all these countries, (Scandinavia, Germany and its Germanic neighbours) the proportion of low qualifications decreases significantly less compared to those countries in which this proportion was originally high.

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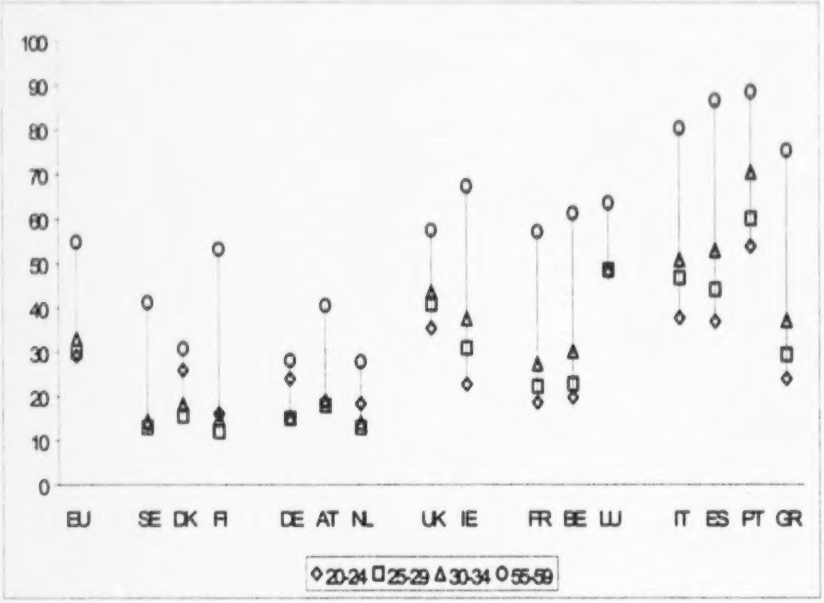
[4] We will later see that only very few people obtain more education later in life if they have not passed the lower secondary level at age 20-24.

Figure 1. Share of persons having attained ISCED 0-2 by age group within the European Union: observed percentages



Source: EUROSTAT, Community Labour Force Surveys 1996-1997, own calculations

The smallest decrease is found in Germany and Denmark. In these two countries, less than a third of the oldest cohort considered has only minimum schooling. Portugal still has a relatively high proportion of persons with low qualifications; the same is true for Italy and Spain as well as for the United Kingdom and Luxembourg.

Based on the proportions of low qualifications, the differences among European countries are smaller for younger age groups than for older ones. For the older age groups, the difference between Germany and Denmark on the one hand and Spain and Portugal on the other hand is about 60 percent points. For the younger age groups, the maximum regional disparity within Europe is less than 40 percent points. If one ignores Portugal and Luxembourg, the difference is about 20 percentage points. In this international comparison, Germany's position is quite remarkable. The country is clearly top-ranked for the older age groups due to the well-established vocational training system. However, for younger age groups Germany shares this position with a whole set of other countries or, as for the cases of France and Belgium, other countries come close to this position.

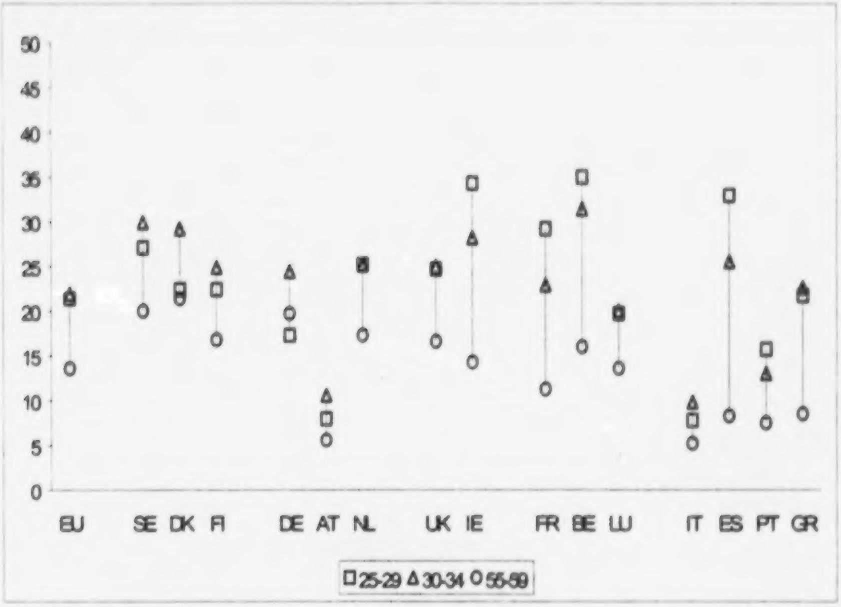
It is interesting that in all countries with a relatively low level of low qualifications, almost no differences among younger age groups can be found. This might be due to the fact that countries, which already have achieved a high standard, did not make efforts to reduce the proportion of low qualifications any further. But it is also possible that it is particularly difficult to obtain better educational results for those pupils, who potentially remain on this level.

The findings of Figure 2 are more difficult to interpret. One reason for that is the variation in age at which students in different countries finish their tertiary education. If the proportion of highly qualified persons in a country is lower among the 24-29-year-old ones than the proportion among the 30-34-year-old ones, this does not mean that the proportion of graduating students really decreases. The literature reports that in these countries, students often finish their studies in their late thirties or early forties (European Commission, 1997: 90). In Figure 2, this applies to the Nordic countries, to Germany, Austria, The Netherlands, Italy, and – surprisingly - to the United Kingdom. The United Kingdom is well-known for its short duration of studies. However, the widespread system of Further Education (see above) leads to the fact that a substantial amount of persons obtain a tertiary qualification at a relatively late age.

The figure illustrates clearly that within the last thirty years, there were very different dynamics for the expansion of higher education in European countries. Ireland, France, Belgium, and Spain, experienced an enormous increase in education. These formerly backward countries caught up on education according to our indicator and earned a position among the top-ranked countries. The top position of those countries is also connected to the fact that tertiary education is organised extensively (see for example the above-mentioned case of nurses). But the enormous educational growth in these countries cannot be denied, since for example in Germany, the training of nurses is included among the definition of tertiary education used here, too.

Overall, the disparity among the European countries increased over the period considered. In Austria and Italy, the oldest age groups already had a very low proportion of highly qualified persons. These countries witnessed a relatively small increase in tertiary education, while other countries experienced a massive growth of higher education. So the ratios of earned tertiary degrees diverge in Europe over the years. Germany again shows an exposed position in this figure. The proportion of highly qualified persons among 25-29-year-olds is even lower than that among 55-59-year-old persons. At first glance, this is implausible. However, this finding illustrates the late graduation of German students, but it also shows the fact, that Germany experienced a very moderate educational expansion compared to other European countries. The same phenomenon was also found by Lüttinger (1994) and is documented in findings of the OECD (1998). For the oldest birth cohorts considered, Germany is top-ranked together with Denmark and Sweden in Europe. For 30-34-year-old persons, Germany has a middle position, and for the youngest age group, its ranking position is even lower.

Figure 2. **Share of persons having attained ISCED 5-7 by age group within the European Union: observed percentages**



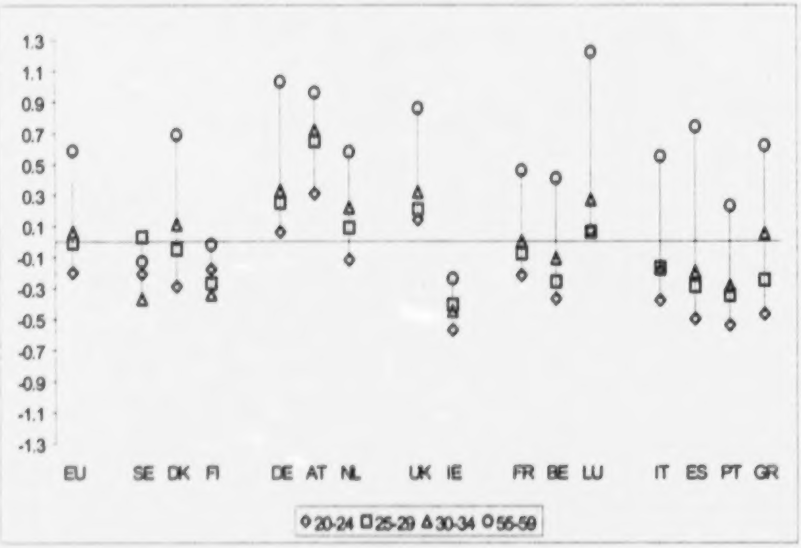
Source: EUROSTAT, Community Labour Force Surveys 1996-1997, own calculations

The previous analyses refer to all men and women of the respective age groups. However, if one is interested in cross-country variation of long term developments in educational attainment, there is a need to look at differences between men and women. The reason for it is that female educational participation rates have risen strongly in the last decades in Europe, and, therefore, will be responsible to a large degree for the educational expansion that is observed.

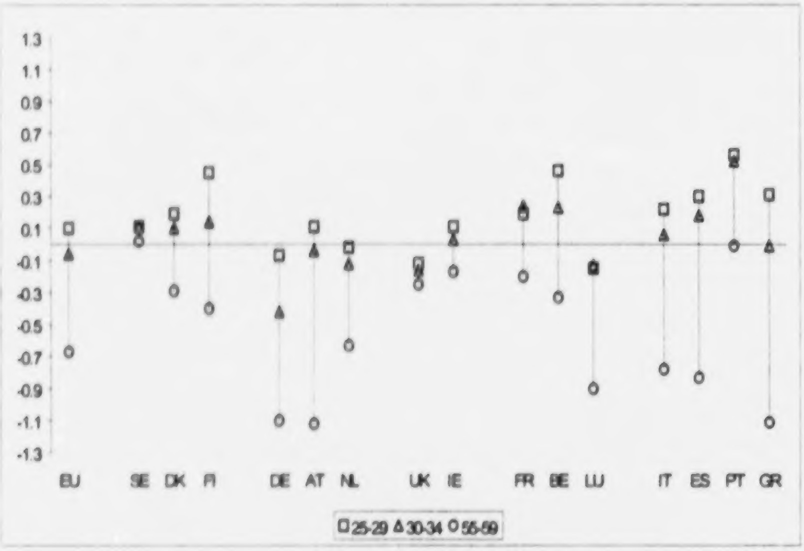
In Figure 3 observed logit effects are presented, that compare the educational attainment of women to men for different age groups. A positive logit effect indicates a disproportionate number of women in a given educational category, in the sense that the (natural logarithm of the) odds of having attained a particular level of education is higher for women than for men. A negative logit effect means that men have a higher probability of having attained this level of education.

Figure 3. Educational attainment of ISCED0-2 and ISCED5-7 for women compared to men by age group within the European Union: observed logit effects

ISCED 0-2



ISCED 5-7



Source: EUROSTAT, Community Labour Force Surveys 1996-1997, own calculations

With regard to lower level qualifications, in most of the European countries women were in a disadvantaged position in the older cohorts. Especially in Germany, Austria, the United Kingdom, and Luxembourg women had a higher probability than men of having attained ISCED0-2 at most. For instance in Germany, the odds of having attained ISCED0-2 is 2.811 ($e^{1.034}$) times higher for women in the oldest age group (55-59 years) than for men in the same age group. Nowadays, sex differences in the attainment of ISCED0-2 have almost diminished in these countries; with the exception of the United Kingdom and Austria, where for women aged between 20 and 24 years, the odds of having attained ISCED0-2 is still higher for women than for men. In the South European countries women were in a somewhat disadvantaged position, but nowadays women have a lower probability of having attained only basic qualifications. The same holds for Belgium and France. In Sweden, Finland, and - somewhat surprisingly - Ireland, women were and still are in a better position than men with regard to the attainment of ISCED0-2.

With respect to higher education we conclude that in the meantime men and women hardly differ in the attainment of ISCED5-7 in most European countries. Only in the United Kingdom, Germany and Luxembourg are the odds of having obtained a degree in tertiary education still smaller for women than for men. In Portugal, Belgium and Finland, on the other hand, women nowadays have relatively better positions with regard to the probability of obtaining a degree in higher education. For example in Portugal, for female youngsters aged 25-29 years the odds of having attained ISCED5-7 is 1.746 ($e^{.557}$) times higher than the corresponding odds for 25-29 year old men. The other member states of the European Union hold more or less an intermediate position.

However, a more differentiated picture of the attainment of tertiary education shows a less favourable position for women. If one differentiates, as in Figure 4, the heterogeneous category of tertiary education graduates along more specific educational degrees, then inequality between genders is still clearly evident[5]. In England and France, women more often than men obtain those tertiary degrees which are less prestigious, less demanding and provide less advantageous opportunities on the labour market. Men, on the other hand, are over-represented among degrees at the top of the education hierarchy, even in more recent times. Germany is characterised by the fact that for both levels of tertiary qualifications the proportions of women are lower than those for men. Similarly differentiated analyses would probably also show continued gender inequalities on the tertiary level for other countries.

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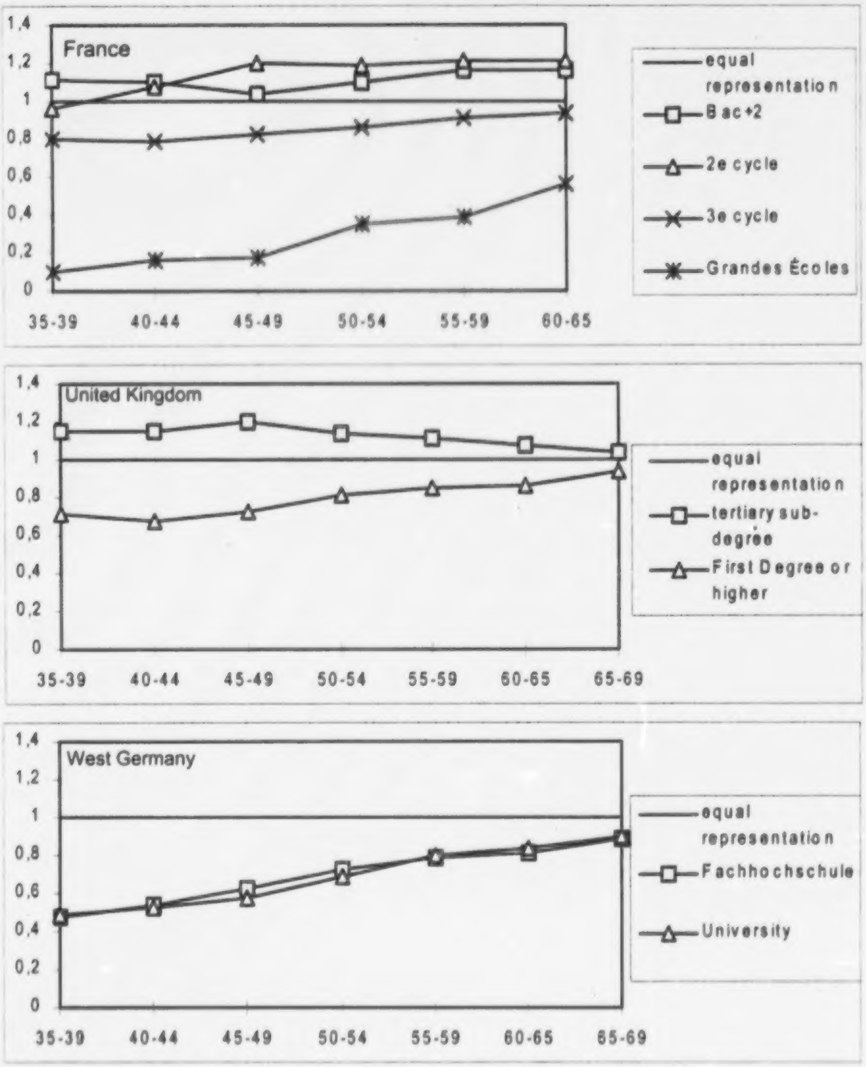
[5] These more differentiated figures are calculated from the original national Labour Force Surveys which provide more detailed educational information than is contained in the harmonised EUROSTAT database. The figures are based on the year 1995 for Germany, 1994 for the UK and 1994 for France.

Figure 4. **Proportion of women compared to proportion of men among graduates of different levels of tertiary qualifications by cohort**



* Proportion of women among graduates from given level of qualification compared to proportion of all women among birth cohort considered

Source: Own calculations from microdata of national Labour Force Surveys of Germany (1993), France (1994) and United Kingdom (1994)

Age patterns of educational attainment in the European Union

Educational attainment is a step-wise process. As the members of a birth cohort move from childhood to adulthood they reach specific levels of education. Some quit the educational system while others continue and reach higher levels of education. Leavers may return to the educational system later in order to obtain additional qualifications. Some also combine education and work. The precise features of this complex process vary substantially from country to country. In this section we attempt to show how educational attainment of the members of a birth cohort evolves with age. For each successive age year we study how many members of a birth cohort have reached specific levels of education and how these distributions vary with increasing age.

We basically distinguish three levels of education: ISCED 0-2, ISCED 3 and ISCED 5-7. For ISCED 3 we additionally distinguish whether this level has been reached through a track of general education or through a track of vocational training. The following issues are of particular interest:

1. The size of the low qualification segment and the age profile of progressing beyond low qualifications. As we have seen countries vary in the proportions of birth cohort members who only obtain low levels of education. Here we are interested in the critical age up to which low qualifications are usually overcome either by a continued educational career, via obtaining additional qualifications by returning to school after a break or by combining education and work. Countries may vary substantially in the extent to which their educational institutions provide means and / or give incentives to progress beyond low qualifications in the life course.

2. The size and age profile of the intermediate (upper secondary) qualification group and the share of general and vocational qualifications among them.

3. The age profile of obtaining higher (tertiary) qualifications and the emerging size of this group.

Without longitudinal data and without the ability to follow the progression of individuals through the educational system it is very difficult to assess these issues properly. The European Labour Force survey allows a rough approximation by exploiting the fact that samples of the same birth cohorts are interviewed in successive years. We can therefore follow the changing educational profile of a birth cohort in the process in which its members continually grow in age. Below we will present first results from a model relying on this feature of the ECLFS. In this analysis below we will, however, not be able to distinguish between general and vocationally oriented secondary education[6]. Therefore we begin with an analysis of the simple educational distributions of the LFS respondents by their age. In this analysis the distinction between general and vocational qualifications can be used, but age effects and cohort effects are intertwined, and we must be particularly careful when interpreting the findings.[7]

We begin in Figure 5[8] with the example of Germany, because we know and we have shown in the previous sections that in Germany educational participation has changed only very slowly in the most recent years. Therefore the age distributions are only weakly biased by cohort changes in this country. The lowest (data-related) curve in Figure 5 shows that at age 15 in Germany 100 % of a birth cohort still hold qualifications below the upper secondary level. From age 16 and 17 onwards more and more persons obtain upper secondary qualifications. Up to age 17 this proportion rises slowly, then very quickly up to about age 22. Beyond age 22 only very few succeed in obtaining qualifications which move them from at most lower secondary to upper secondary qualifications. The second *unbroken* line marks the distinction between (upper) secondary and tertiary qualifications. We see that from about age 20 on a few people slowly obtain tertiary qualifications. This proportion increases more quickly in the mid twenties. But even in their thirties some cross the line from secondary to tertiary qualifications. At age 39 slightly more than a quarter of a cohort has obtained a tertiary qualification. The *broken* line indicates the distinction between *vocationally* and *generally* oriented secondary qualifications. In Germany, the overwhelming majority of a cohort obtains a vocationally oriented secondary degree and this qualifications remains the final qualification for most of those who obtain it. In contrast, most of those who have obtained a generally oriented secondary degree - generally at about age 19-20 - sooner or later continue to tertiary studies and then obtain a tertiary degree at an university or Fachhochschule. The horizontal direction of the broken line and the strongly declining proportion of those with general secondary qualifications clearly indicate that in Germany the type of secondary education - vocational or general - very strongly conditions the further life-course: Most of those with a traditional academically oriented general secondary education move to tertiary education, those with vocational training at the secondary level do not.[9]

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[6] The time series of repeated cross-sectional data that we will use below, unfortunately, does not include for all years the distinction between general and vocational secondary education.

[7] In order to obtain stable estimates for single age years we present figures for the pooled ECLFS-surveys of the years 1992 to 1996.

[8] Figure 5 includes two vertical lines at age 18 and at age 25. These lines are included to facilitate comparisons of the age pattern in educational attainment between the figures for different countries.

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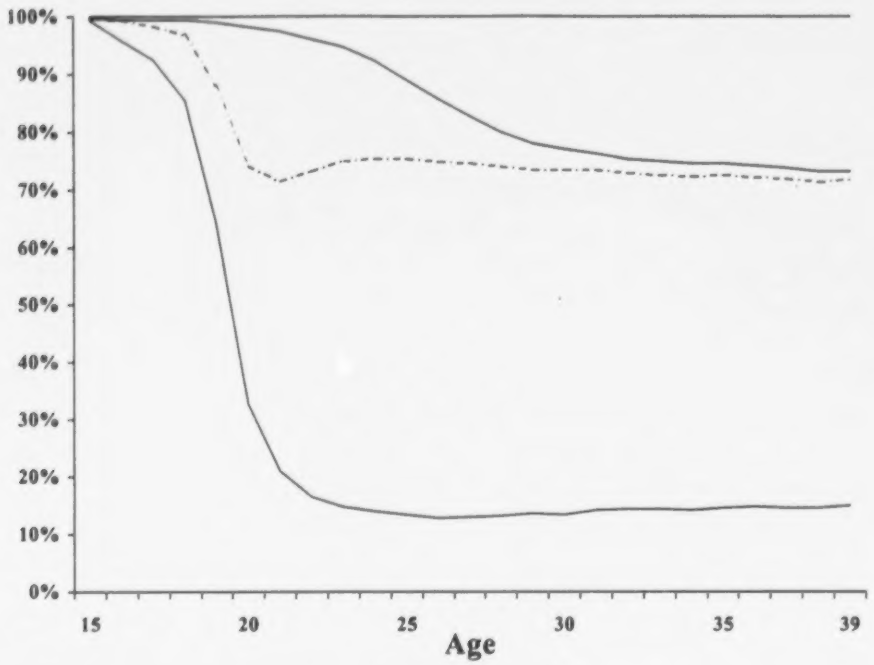
[9] Evidently this is a simplified account. We only see aggregate distributions in the figure and cannot follow individual trajectories. But as available longitudinal data indicate, the representation here is not far from the truth. However, a few of those with vocational secondary qualifications later obtain tertiary qualifications. This is indicated in the figure by the slightly declining direction of the broken line after age 23. The slight increase in the broken line after age 21 most likely reflects the fact that a small proportion of those with a general secondary degree add a vocational qualification to it.

Figure 5. Germany: Distribution of the educational attainment groups by age



Source: EUROSTAT, Community Labour Force Surveys 1996-1997

The very horizontal pattern of the lines beyond about age 22 (for secondary) and about age 30 (for tertiary qualifications) is due to two facts. First, quite a few people certainly take part in some courses in order to improve their knowledge, to gain additional qualifications or to renew qualifications. However, this kind of further education or of life long learning is not of a kind that would lead to a reassignment in terms of our broad classification of qualifications. Secondly, as outlined before, educational participation has changed only rather slowly in the last 10 to 15 years. Therefore, the distribution in terms of our classification has remained more or less constant as well. We should expect a rather different pattern in countries, in which educational participation has strongly increased in recent years. For instance, when in younger cohorts a smaller fraction of people remains with ISCED0-2 qualifications than in older cohorts, then the respective curve should reach a minimum at about age 20 or so. After that age the curve should move upwards, reflecting the fact that in the older cohorts more persons have obtained only low level qualifications. Similarly, when in recent cohorts the proportions of tertiary level graduates have increased, the ISCED5-7 line should move upwards following a minimum at about age 25. The declining space for ISCED5-7 qualifications would indicate that in the cohorts of the older age groups the proportion of those with tertiary qualifications was smaller than in the more recent cohorts[10].

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[10] For a first attempt to distinguish more precisely such cohort effects of changing educational participation from the age pattern of educational achievement, see the next section.

We now move from the example of Germany to the other European countries which partly show rather different patterns in age profiles of educational attainment, in the distribution of achieved educational qualifications and in change over time in these patterns. We begin with those countries which are most similar to the German pattern. These are the Scandinavian countries plus Austria and the Netherlands (see Figure 6). In all these countries rather small proportions of the population - clearly less than 20 % in the youngest cohorts - receive only lower level secondary qualifications. All these countries have a large segment of secondary vocational qualifications, but only small minorities remain with secondary general qualifications. With the exception of Austria, in all these countries quite large proportions of a cohort reach a tertiary degree (between 25 and 30%.) In the Netherlands and in the Scandinavian countries, secondary and tertiary degrees tend to be reached somewhat earlier than in Germany. In Austria, *secondary* degrees are also reached somewhat earlier than in Germany, but the few *tertiary* degrees are reached even later than in Germany. According to these figures, there is thus a large communality between the German speaking countries, the Netherlands and Scandinavia. All these countries have a large sector of vocational training at the secondary level; they have also rather high proportions of tertiary education (except Austria), but rather low proportions of people with only low qualifications.

The second group of countries includes the United Kingdom and Ireland, France and Belgium (see Figure 7). With the exception of the UK, similarly large proportions in the youngest cohorts obtain tertiary qualifications as in the previous group of countries, but the vocational element at the secondary level is clearly smaller than in the Germanic and Scandinavian countries. However, in both France and the United Kingdom, vocational qualifications are still quite frequent, but the respective proportion is very small in Belgium. The Irish labour force survey does not measure vocational qualifications, but from other sources we know that such qualifications are quite rare in Ireland. For all these countries we see the clear sign of marked educational expansion in recent years: For the older age groups we find substantially larger proportions of persons with only lower level secondary qualifications than in the younger age groups. The UK has progressed the least in this direction. Even in the youngest cohorts about a third of the cohort will go through life with the low qualifications at the ISCED0-2 level. In all countries of the second group both secondary and tertiary qualifications tend to be obtained at younger ages than in the Germanic and Scandinavian countries. ISCED5-7 qualifications are obtained particularly early in Belgium and Ireland. It is quite likely that in many cases these are qualifications below the university level.[11]

The third group of countries includes the countries of Southern Europe: Greece, Italy, Portugal and Spain (see Figure 8). With the exception of Greece, all these countries still include large proportions of the population with low qualifications even if these proportions have declined recently. According to the figures, the countries also seem to have in common a relative lack of vocational qualifications at the secondary level. However, the data for Italy are inconsistent with other research on secondary education in Italy, according to which more young people obtain a degree of upper secondary education in *vocational* and *technical* schools rather than in the *academically* oriented Licei (Giovine 1988: 247). Secondary qualifications are obtained at relatively young ages in Spain and Greece (like in France) , but at late ages (like in Germany) in Italy and unexpectedly also in Portugal. As to tertiary qualifications, the countries vary a lot. Spain has progressed very quickly recently. The share of

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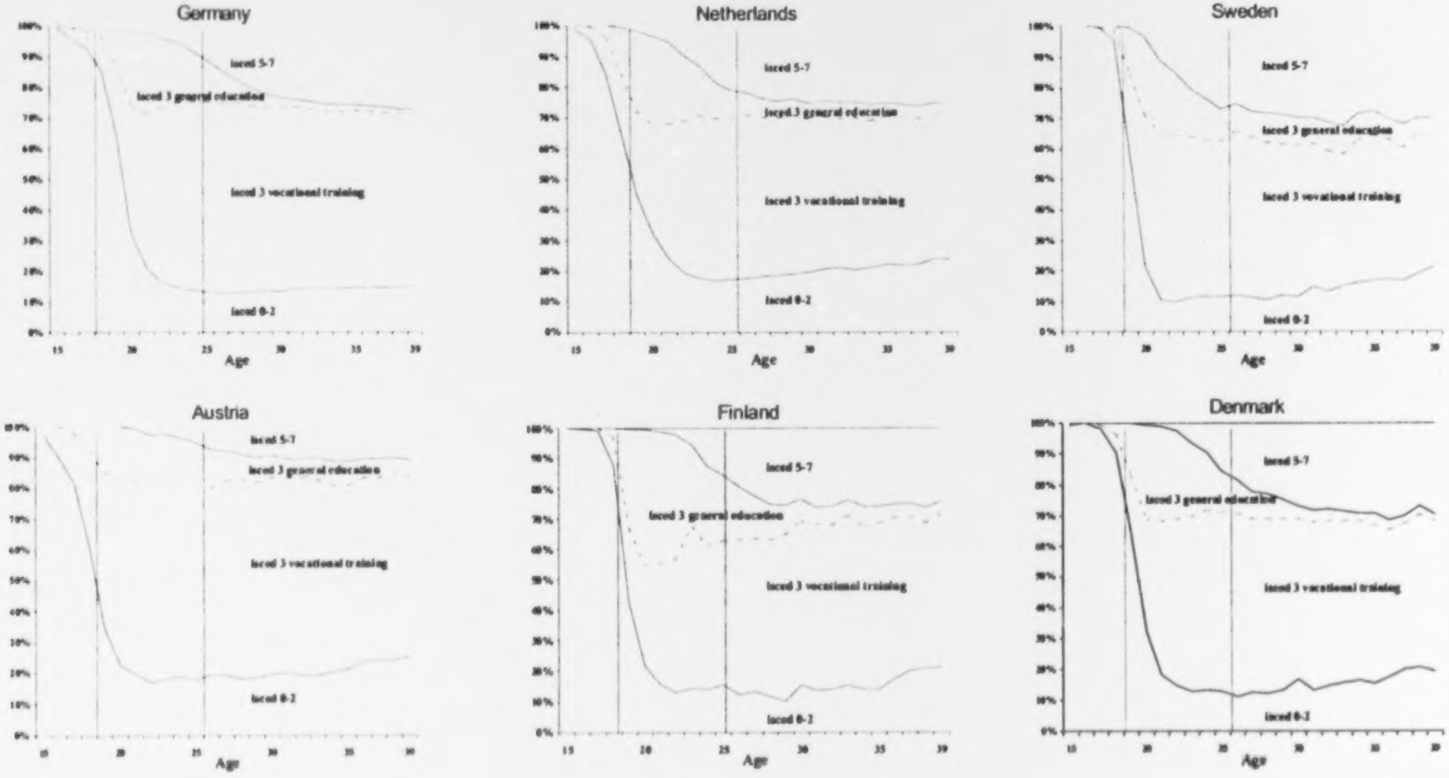
[11]. To answer this question one would need more information on the specific nature of the degrees earned which unfortunately is not available in the Labour Force Surveys at a sufficient comparative standard.

Figure 6. Distribution of the educational attainment groups by age



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Source: EUROSTAT, Community Labour Force Surveys 1996-1997

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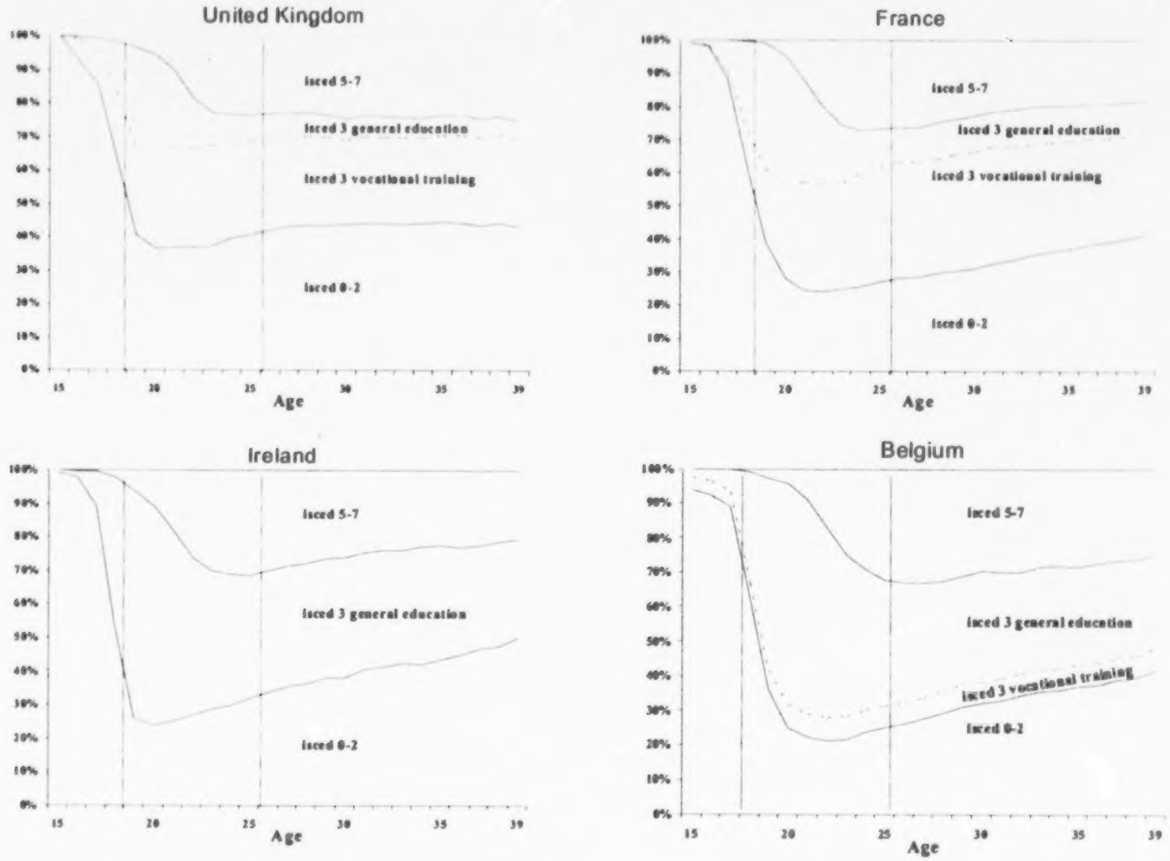
Figure 7. Distribution of the educational attainment groups by age



Source: EUROSTAT, Community Labour Force Surveys 1996-1997

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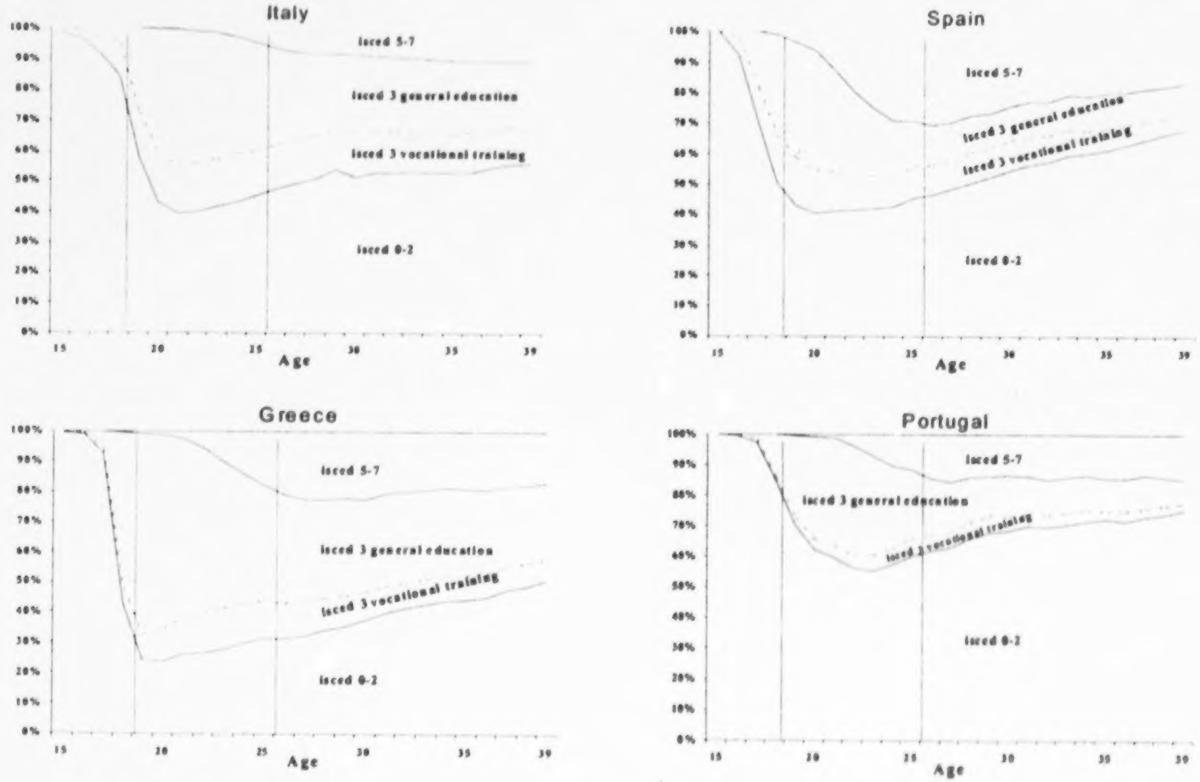
Figure 8. Distribution of the educational attainment groups by age



Source: EUROSTAT, Community Labour Force Surveys 1996-1997

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tertiary qualifications and the timing of reaching them are rather similar to France. In Greece, the proportions of tertiary graduates have also increased considerably, but students reach tertiary degrees there almost as late in life as in Germany. Italy, surprisingly is the other extreme in Southern Europe. Even though the proportion of general secondary qualifications is quite large, very few successfully obtain tertiary degrees, and those who do, obtain them quite late. (Proportions and timing of obtaining tertiary degrees in Italy is quite similar to the pattern in Austria).[12]

A summary of the previous findings concerning the process of educational attainment during youth and early adulthood in the European countries is contained in Figure 9. It shows the distribution by educational levels attained of people aged 21-25 in the various countries of Europe. At that age, the formation and size of two groups of people is already more or less fixed: those who will move through life with a low level of qualifications and those with secondary level vocational qualifications. The previous figures let us conclude that the size of these two groups will probably only change to a small extent once a cohort has reached age 25.[13] From this snapshot at ages 21 to 25 we see:

- The Scandinavian countries, Germany, Austria and the Netherlands have so far succeeded best in providing the largest share of their citizens with qualifications beyond the lower secondary level. In these countries, the proportion of people with only ISCED 0-2 qualifications is smallest. These are at the same time the countries with the largest share of vocationally oriented qualifications at the secondary level.
- Next come Belgium, France, Ireland and the UK. Of these countries the UK and France have relatively large proportions of vocational qualifications , the other two much less.
- With the likely exception of Italy, the countries of Southern Europe have also scarcely developed the provision of formal vocational qualifications. Also the proportion of people with only low qualifications is still rather high, only Greece being an exception.

As other data – not shown here – indicate, in most countries men are slightly more likely than women to have participated in a secondary vocational programme, women more often in a general programme.

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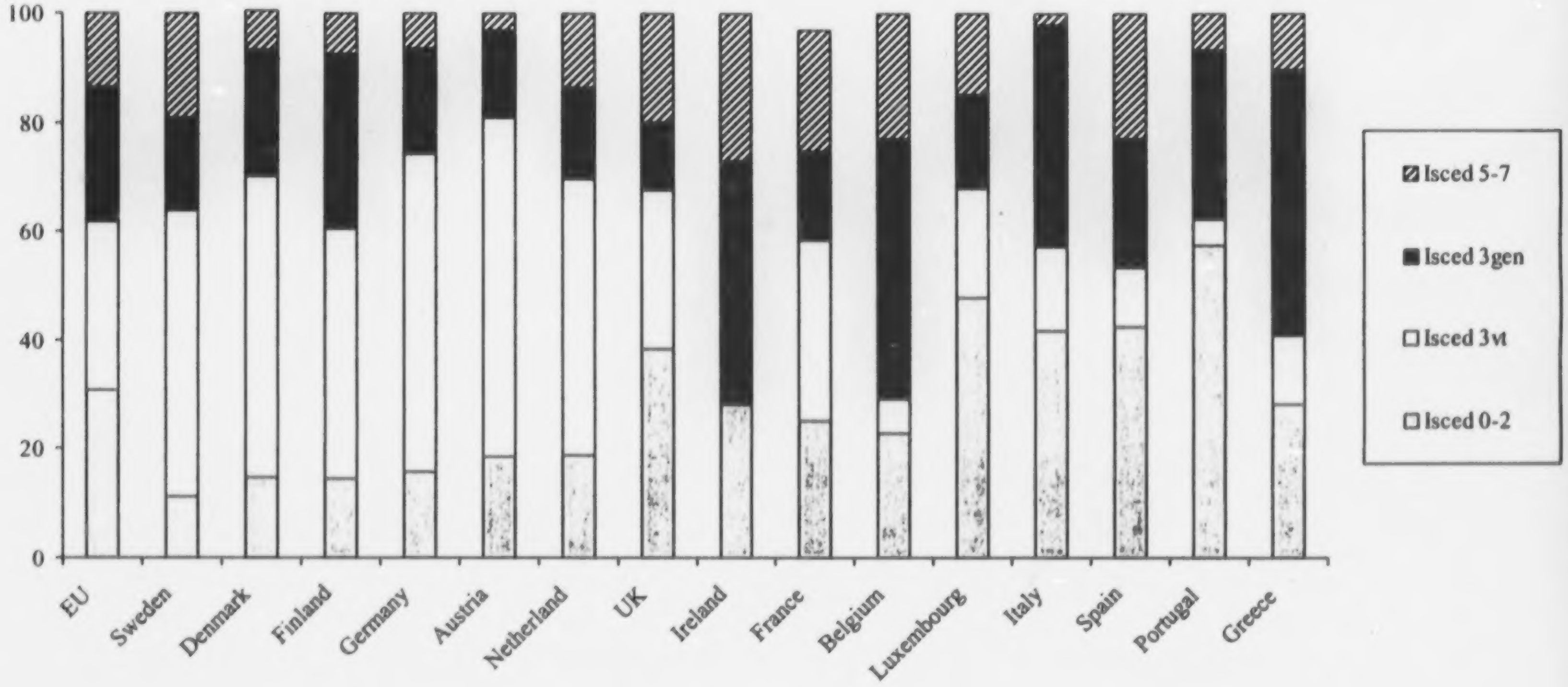
[12] According to the figures of the ECLFS tertiary qualifications appear to be obtained quite late in Portugal as well. However, as other information on Portugal does not confirm this finding, further investigation is needed for clarification.

[13] The more or less final cohort proportions of those who move through life with at most general secondary qualifications or with tertiary qualifications become more or less fixed only at higher ages. They can therefore not be estimated reliably from Figure 9. The figure can only indicate in which countries tertiary qualifications are obtained at rather young ages.

Figure 9. Differences in educational attainment for persons between 21 and 25 by countries



Source: EUROSTAT, Community Labour Force Surveys 1996-1997

The systems of vocational training in Europe not only vary strongly in size, they also vary considerably in the organizational set-up and in the extent to which training in schools is combined or alternates with training within a firm's workplace. The labour force survey allows to grasp the relative prevalence of either kind of vocational training by analysing the information collected with the question concerning educational activity during the last four weeks preceding the survey. The response alternatives include school based vocational training and dual system vocational training. Figure 10 shows the proportion of people having obtained one of these two forms of vocational training for the age groups 16-20 and 21-25 – the two age groups in which most of such training takes place.[14]

The results are largely consistent with those previously reported. In the age group 16-20 the participation rates in vocational training (adding school based and dual system type vocational training) is largest in Austria, Germany, the Netherlands and the Scandinavian countries, next come France and the UK. However, rather unexpectedly, we also find about 20 % of the 16-20 years old participating in vocational training in Spain. This seems in contradiction to the previous figures according to which in Spain only small proportions of all age groups have obtained a vocationally oriented secondary education. While this inconsistency - and also the case of Ireland - needs to be clarified, all other countries are found to have only very low participation rates in either form of vocational training between 16 and 20 years of age. The figures are also largely consistent with available knowledge of the institutional organisation of vocational training in the various countries. They show large proportions of dual system vocational training in Austria, Germany and Denmark, but unexpectedly also for the UK. In all other countries school based vocational training prevails.

Summing up: Even though the brief analysis so far did not attempt to disentangle age differences in educational attainment from cohort trends we have found both commonalities and substantial differences between the European countries in the profiles of educational participation. One of the common features seems to be, that young adults who have followed a vocationally oriented track in secondary education are much less likely to enter tertiary level education than graduates from general tracks. The patterns of results also appear to indicate that in all countries very few persons make the step from a ISCED0-2 qualification to a full secondary qualification once age 20 or 21 is reached. Countries differ quite substantially in three respects: (i) the proportion of a cohort who remains at the lower level of secondary education; (ii) the shares of the general and vocational tracks at the upper secondary level; (iii) the time in the life course of obtaining tertiary level qualifications.

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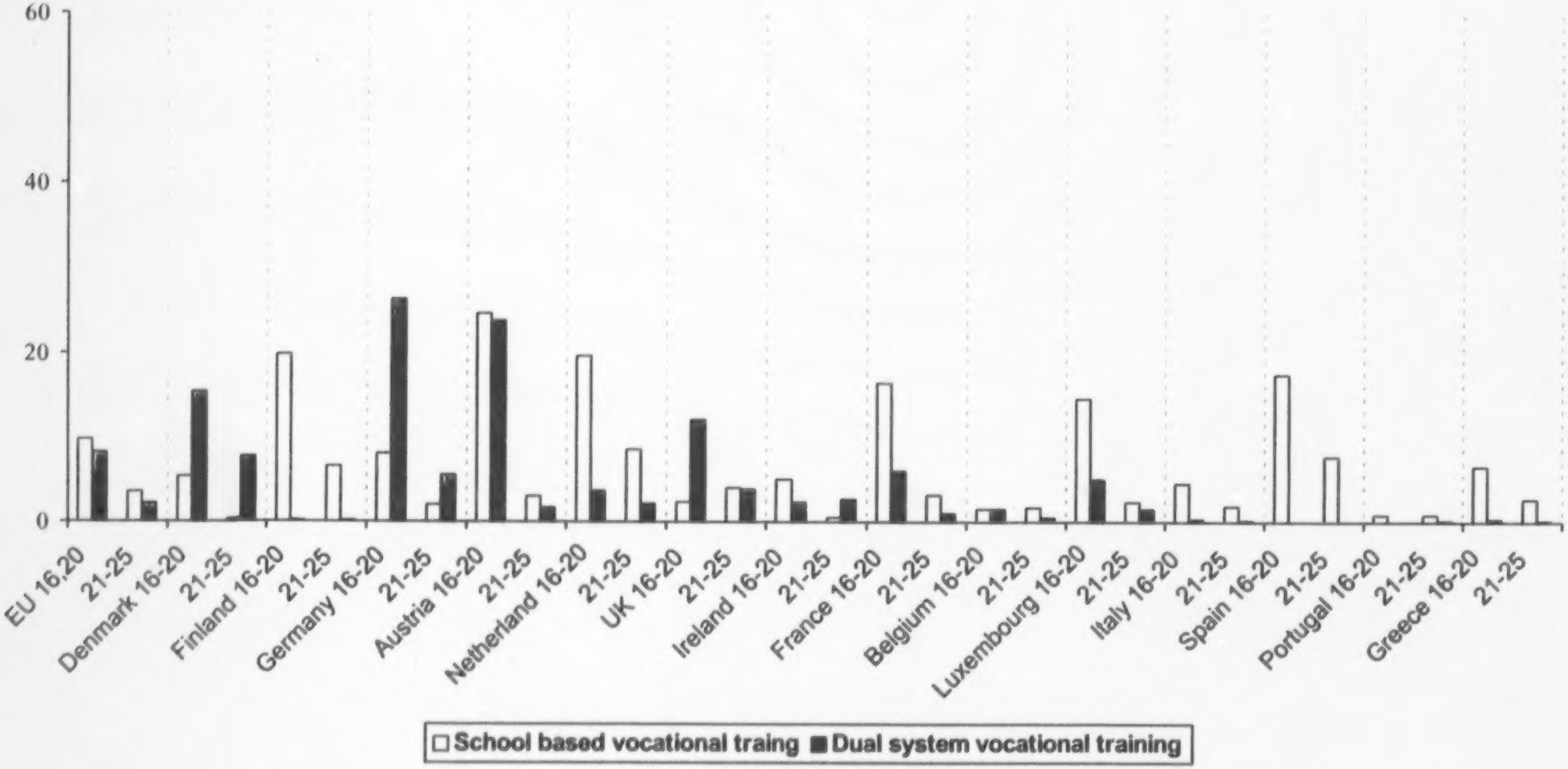
[14] Other analyses not reported here show, that in older age groups the LFS finds only very tiny proportions of vocational training for all countries.

Figure 10. Vocational training within the last four weeks for age cohorts by countries



Source: EUROSTAT, Community Labour Force Surveys 1996-199

A model to separate age effects and cohort effects in educational attainment

As has been made clear, a serious weakness of the previous analysis is the fact that they do not disentangle age and cohort effects (see for example Mason et al, 1973). This is most clearly evident from the contra-intuitive finding, that in some countries the proportions of people with only lower level secondary education is higher for people at higher ages than at younger ages. In order to obtain a more realistic account of the 'educational paths' of successive birth cohorts in the European Union we develop now a model to separate age and cohort effects.

One way of doing this is to make use of repeated cross-sectional data. For the purpose of this analysis therefore, we use cross-sectional data based on a ten-year-period (1988-1997). In order to look at the educational attainment process of young people, we selected only those respondents who were between 15 and 34 years of age at the time of interview. By defining a birth cohort on the basis of a person's birth year, we can observe this cohort in each period in which a survey has taken place. Since the age of the individuals who are part of this birth cohort is higher in later periods, we can determine the educational level of the members of this birth cohort at different age points. For instance, we observe youngsters who were born in 1971 when they were 17 years of age (interviewed in 1988) until the age of 26 (interviewed in 1997). By doing this exercise for all birth cohorts, we can observe for each of these cohorts a (different) part of their educational career. By combining this information, we get a clear picture of the age specific educational attainment for successive birth cohorts. We categorised the yearly birth cohorts in the following five-year-span groups: 1953-1957, 1958-1962, 1963-1967, 1968-1972, and 1973-1977.

A broad view on the European Union

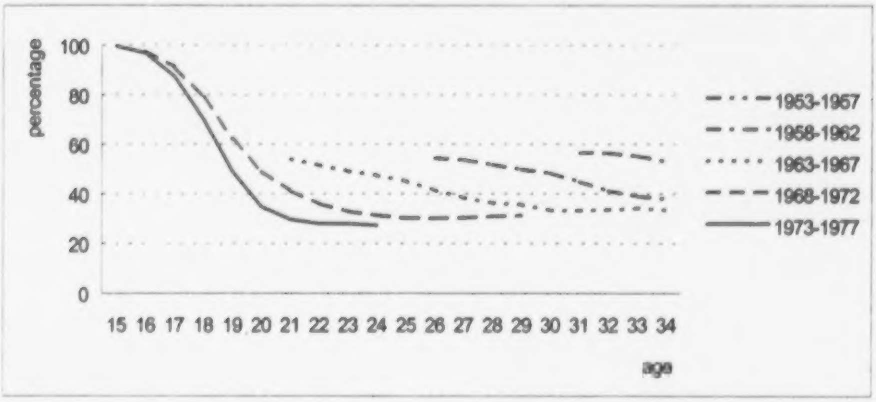
Figure 11 presents the observed age specific patterns of educational attainment for successive birth cohorts in the European Union. Let us start with a general description of the age specific patterns of educational attainment, before looking at time trends. As can be seen from this Figure, with no exception all young people of age 15 have still attained no more than primary education or secondary education, lower level (ISCED0-2). Immediately after this age point, however, a strong decline starts. Of course, this is the result of people graduating from secondary education, higher level. Once persons are in their early twenties, then the likelihood of obtaining any higher qualification than ISCED0-2 at a later age is almost zero. After this age point nobody exits basic education anymore by receiving a higher level diploma.

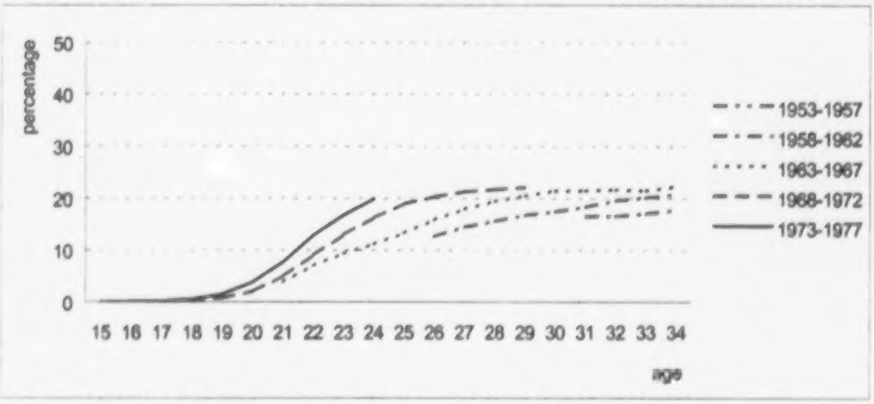
In general, the age at which students have finished (at least some) tertiary education (ISCED5-7) starts around 20 years of age. Between age 22 and 25 most of the youngsters that are in tertiary education obtain a diploma at this level. From all people in the European Union aged 25, around 15 to

20 percent (depending on the birth cohort) have attained tertiary education. After that age, the additional proportion of people that reach the ISCED5-7 level declines. After 30 years of age, almost no increase in the proportion of people that attain tertiary education can be observed.

When comparing the age patterns for the various birth cohorts, it can be concluded again that a strong educational expansion has taken place in recent decades. At each age point, the proportion of people who have a diploma at the level of ISCED0-2 at most has decreased over time, while the percentage of students who have graduated from ISCED5-7 has increased over time.

Figure 11. Age specific educational attainment of ISCED0-2 and ISCED5-7 by birth cohort within the European Union: observed percentages





Source: EUROSTAT, Community Labour Force Surveys 1988-1997, own calculations

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Modelling age and cohort effects

All the information that is in Figure 11 can be dealt with more parsimoniously if one models both the age and cohort effects. Therefore, we applied logit analysis to the data. The model shows for each educational level the age and cohort effects that refer to all men and women. In order to specify adequately the age specific patterns, the age effect is modelled by a polynomial function. We included a linear, a quadratic and a cubic term in the regression equation. The cohort effects are based on dummy variables, where the birth cohort 1973-1977 serves as the reference category. In Table 1 the parameter estimates of this logit analysis are shown. The findings in Table 1 show again that there has been a strong educational expansion during the last decades. First of all, the attainment of lower qualifications has decreased in the sequence of birth cohorts. For instance, the odds of having attained ISCED0-2 is for the 1953-1957 birth cohort more than eight times higher than for the 1973-1977 birth cohort ($e^{2.119} = 8.323$). Furthermore, it can be concluded that tertiary education has expanded in recent times. For persons born in the period 1953-1957, the odds of having attained ISCED5-7 is only 34 percent of that for those born between 1973 and 1977 ($e^{-1.083} = .339$). The modelled age effects as presented in Table 1 are difficult to interpret on the basis of the parameter. estimates. For now, we will skip the interpretation of these effects, and come back to it when we compare the results for the European countries separately (see Figure 15).

Table 1. The impact of age and birth cohort on educational attainment of ISCED0-2 and ISCED5-7 within the European Union: predicted logit effects

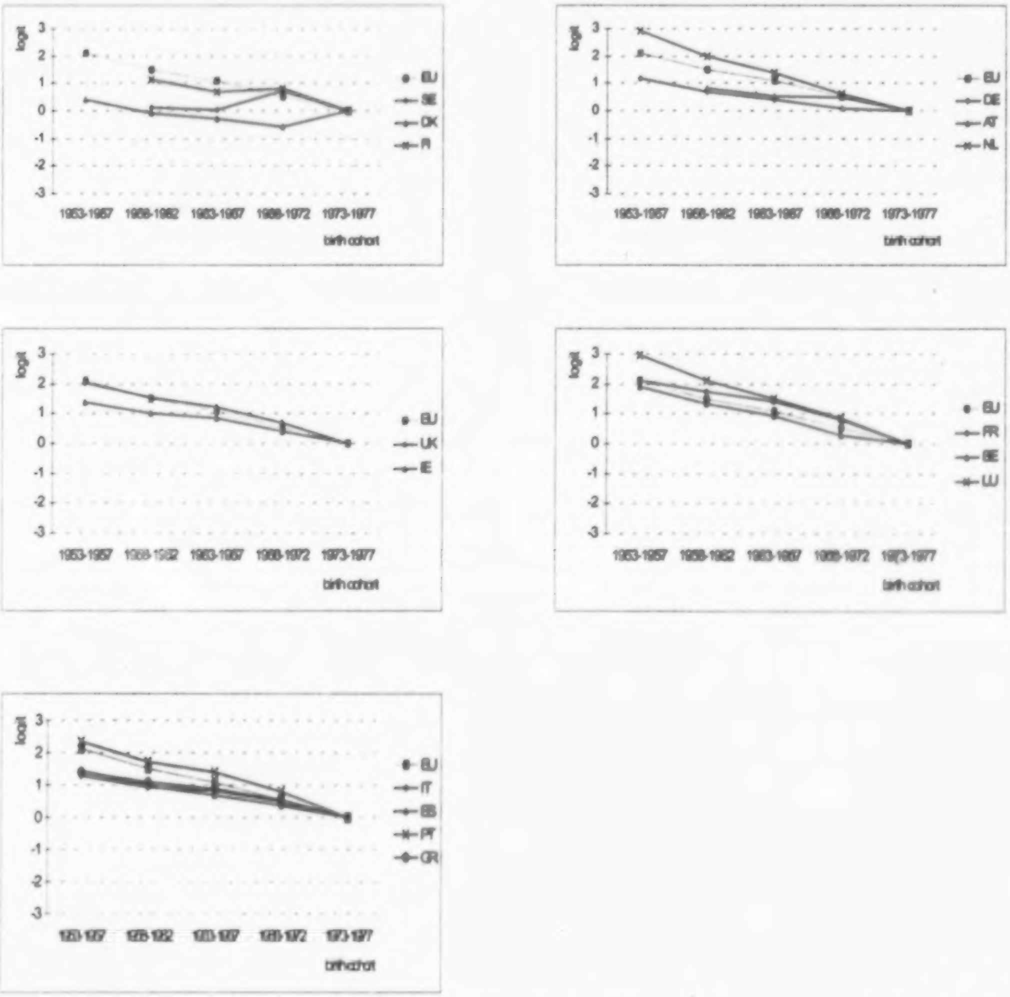
Variable	ISCED0-2	ISCED5-7
Intercept	49.523	-62.086
Age	-5.443	6.040
Age^2	.193	-.198
Age^3	-.002	.002
Birth cohort		
- 1953-1957	2.119	-1.083
- 1958-1962	1.498	-.910
- 1963-1967	1.077	-.730
- 1968-1972	.537	-.448
- 1973-1977	ref.	ref.

Source: EUROSTAT, Community Labour Force Surveys 1988-1997, own calculations

Cross-country variation

So far, we have presented only a very broad picture of age specific patterns of educational attainment in the European Union and neglected all the variation there is between the member states. The reason for this is that we just wanted to show how we can treat the data we have at our disposal. Now, we will repeat our analysis, but then for each country separately. This will give us more useful insights into the differentiation of the age specific patterns of educational attainment in Europe. The estimates of this analysis are shown in Tables A.1 and A.2 of the Appendix. For ease of presentation, the results will be interpreted with the help of Figures.

Figure 12. **Historical trends in educational attainment of ISCED0-2 within the European Union: predicted logit effects**

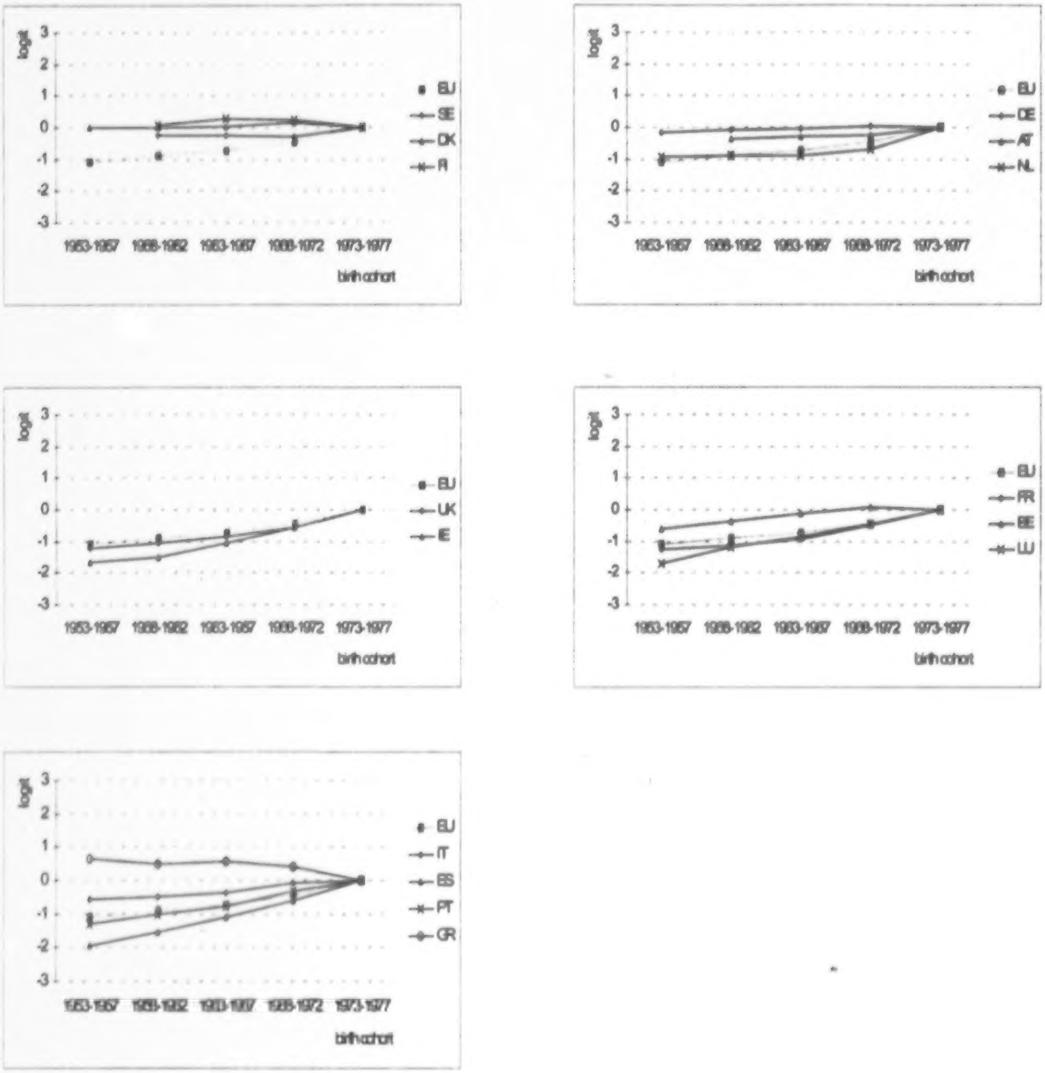


Source: EUROSTAT, Community Labour Force Surveys 1988-1997, own calculations

In figure 12, the historical development in the educational attainment of ISCED0-2 is shown. In this figure the presented results are based on logit effects. As a kind of reference we plotted in each graph the logit effects of the European Union as a whole. For the Scandinavian countries it is difficult to say what happened with the attainment of lower qualifications over time. Is seems that there is a kind of a trendless fluctuation. At least one could say that, compared to the European Union, the development in the attainment of ISCED0-2 is rather small. In the German surrounding countries more changes have taken place in the attainment of lower qualifications. For Germany and Austria, the effect over time is twice as small as for the whole European Union, whereas for the Netherlands the decreasing educational attainment of ISCED0-2 has been much stronger. In Luxembourg, the attainment of ISCED0-2 has fallen strongly as well. The United Kingdom, Belgium, France and Portugal seem to approach the European Union at most. In these countries, for the oldest birth cohort (1953-1957) the logit of having attained ISCED0-2 is two times higher than for the most recent birth cohort (1973-1977). In the other Anglo-Saxon country, Ireland, the decrease of ISCED0-2 is smaller. The same is true for the South European countries Italy, Spain, and Greece.

In Figure 13 the educational attainment of tertiary education is considered. The Figure shows that the expansion of higher education has developed very differently between the countries within the European Union. Once again, in Sweden, Denmark, and Finland the tertiary education system has hardly expanded recently, although these countries have a top-rank position in the percentage of people who have attained higher education. It seems that the expansion of the educational system in these countries has taken place in earlier times, that remain beyond the scope of our data. In Germany and Austria the expansion of higher education is moderate as well. As hypothesised, a possible explanation of this finding is that both countries have an extensive vocational training system in secondary education, which reduces the need and pressure to provide a vocationally oriented system in tertiary education. This occurred in many other European countries, where tertiary education is organised more broadly (once again, think of the case of nurses). Spain and Ireland, on the other hand, have experienced an enormous expansion of tertiary education. In the case of Spain, it might be that students extend their educational career and postpone their entry in the labour market, because of bad labour market prospects (high unemployment rates). In the case of Ireland, the explanation might have something to do with the non-existence of vocational training in secondary education. All other member countries show an increase in the educational attainment of ISCED5-7 that is more or less of the same size; maybe with the exception of Greece, where there is hardly any change or even a slight negative trend.

Figure 13. Historical trends in educational attainment of ISCED5-7 within the European Union: predicted logit effects



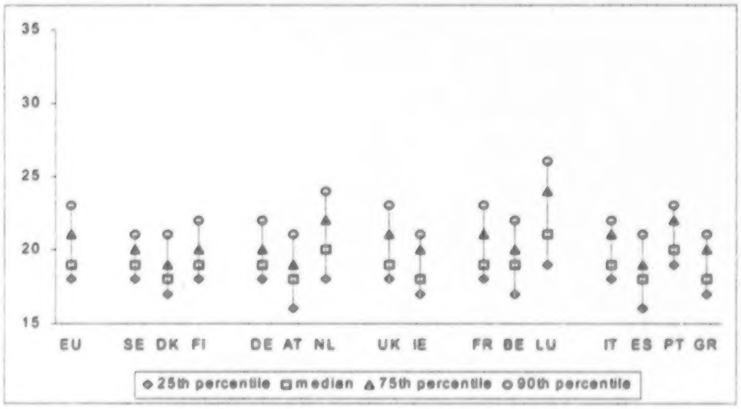
Source: EUROSTAT, Community Labour Force Surveys 1988-1997, own calculations

Age distribution of educational attainment

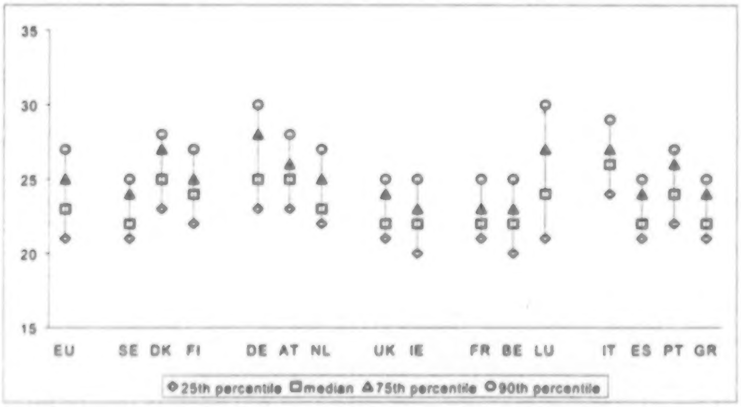
Before coming to the end of this paper, we discuss the age effects in more detail. Since we modelled the age specific patterns of educational attainment by a polynomial function, the interpretation of the logit effects is rather complicated. Therefore, we first re-transformed the estimated logit effects into probabilities. Subsequently, we defined the age at which the percentage of persons having attained a certain level of education does not change anymore. We decided that starting from 15 years of age until the age of no more change, the range in between both ages is the age-span where the attainment of this level of education takes place. Then, we computed four percentile points in this age distribution (25th percentile, median, 75th percentile and 90th percentile). For the ISCED0-2 level, the age distribution shows until what age young people leave basic education or, in other words, receive any diploma at a higher level of education. The age distribution of the ISCED5-7 level determines the age at which students typically obtain their degree in higher education. By computing the age distribution of the attainment of both levels of education, we get a clear picture of cross-country variation with regard to the ages at which youngsters attain a certain level of education.

Figure 14. **Age distribution of educational attainment of ISCED0-2 and ISCED5-7 for the 1963-1967 birth cohort within the European Union: predicted ages**

ISCED 0-2



ISCED 5-7



Source: Eurostat, Community Labour Force Surveys 1988-1997, own calculations

Figure 14 shows that there is a considerable variation in the age at which youngsters normally leave basic education (ISCED0-2). We see that in the European Union as a whole young people normally obtain any higher level of education than the basic level at the age of 19. The Scandinavian countries follow the European standard, with the exception of Denmark. In this country the median age at which young people exit ISCED0-2 is 18 years of age. The same is true for Austria, whereas in Germany and in the Netherlands youngsters normally obtain their certificate in higher secondary education one or two years later respectively.

A possible explanation might be that in Austria a larger proportion of youngsters follows short programmes in secondary education, higher level, which implies that they exit basic education earlier. Unfortunately, due to the broadly defined ISCED levels that we need to use, this explanation can not be tested. Furthermore, we see for the Netherlands that after the age of 24 still 10 percent of the Dutch population achieve a higher level of education than ISCED0-2. The relatively extensive supply of adult education in the Netherlands might be relevant in this respect. In the United Kingdom, the median of leaving ISCED0-2 by receiving a diploma at a higher level of education is reached at 19 years of age and the 90th percentile at 23 years of age. In Ireland, the median age at which young people leave basic education is 18 years. Moreover, there is a relatively small variation in the age distribution. The reason for it is that the Irish educational system just offers general programmes in secondary education, that give access to higher education, usually starting at the age of 17 or 18. In France, the age at which young people normally exit basic education follows the average European pattern. In Belgium, the age at which youngsters normally leave the basic level of education is somewhat lower. In Luxembourg, on the other hand, young people leave basic education by attaining secondary education, higher level at a very late age. In this country the 90th percentile point is reached at the age of 26 only, whereas the European average is 23 years of age. Of the South European countries, Spain and Greece are somewhat below the European level with regard to the age at which young people exit ISCED0-2, whereas Italy and Portugal are more or less at the European average.

With regard to the age specific attainment of tertiary education, there is much more variation between the member states of the European Union. The median age at which students obtain their degree in higher education is 23 years in the European Union as a whole. In Sweden, the median is reached at an age of 22 already. In Finland the median age is reached at the age of 24, whereas in Denmark this is at age 25. With respect to the age at which tertiary education is attained, the latter country fits more closely to the German situation. In this country (and in Austria, and to a lesser extent in the Netherlands as well), students obtain their degree in tertiary education at a relatively late age. Moreover, in Germany there is a lot of variation in the age at which the tertiary level is attained. The first German students leave the tertiary system in their early twenties, while the last obtain their degree when they have reached the age of 30 or more. The reverse situation is found in the Anglo-Saxon speaking countries of Europe. In both the United Kingdom and Ireland students reach their degree in higher education in their early twenties. Furthermore, there is a small age variation. Only a few persons reach the ISCED5-7 level after the age of 25 years. In France and Belgium, the age distribution of the attainment of tertiary education is more or less the same. Students obtain their diploma rather early and there is hardly any age variation. In Luxembourg, only the first year of university studies can be taken. Afterwards, students have to continue their studies abroad. If one examines the Luxembourgian age pattern, one might draw the conclusion that a large part of the students from this country continue their study in Germany. After all, the age distribution for Luxembourg looks like the one for Germany: the median age is rather high and there is a lot of age variation. Italy has the highest median age. Only at the age of 26 years do students in Italy normally obtain their degree in higher education. The reason for this extremely high age has something to do with large number of students that still attending higher education beyond the nominal duration of their courses due to failure to fulfil examination requirements (Schizzerotto and Cobalti, 1998). In Portugal, the attainment of tertiary education is at a rather late age as well, and resembles the Danish age pattern. Finally, Greece and Spain follow the average situation in the European Union with regard to the age specific pattern of having attained tertiary education.

Conclusions

In order to understand the differences in the integration process of young people in the labour market between countries of the European Union, it is necessary to know how the institutional structures of educational systems in these countries differ, as well as how the educational attainment varies. The purpose of this paper was to provide this basic, but important, information. It gives an overview of the institutional features and reforms of the various educational systems in the European Union and provides a broad map of the landscape of educational participation and its recent changes in the process of educational expansion.

In all countries technological, economic and social development in modern societies has led to an increased demand for a (working) population with higher skills and qualifications. This rising demand for higher qualifications motivated educational expansion and the educational reforms related to it. However, countries differ in the way they dealt with this increased educational participation. It was argued that in countries where extensive systems of vocational education existed (like in Germany), these systems have absorbed a substantial part of the growing demand for education. In other countries, it was expected that they would extend opportunities for vocational training within their school system (like France and some of the Scandinavian countries), or that they would expand their existing systems of general education programmes (like Ireland). In the latter case, i.e. in countries that decided to expand secondary level (mainly general) qualifications, it was hypothesised that the demand for education at the tertiary level would grow faster than in other countries.

The detailed description of the process of educational participation showed, that by and large the educational participation expanded most in those countries (like Spain and Ireland) with originally the lowest qualified population. In other words: the formerly backward countries caught up on educational participation and in some cases they now even have a position among the top-ranked countries. Even though in a few countries (in most of the Southern European countries, but also in the United Kingdom) proportions up to one third of young people with low qualifications can still be found, the differences between countries in the incidence of low qualifications have declined. Conversely, we found growing divergence between countries in participation rates at the tertiary level. In some countries participation rates have grown very quickly, while the lag of other countries like Italy or Austria has increased. The disparity between countries in participation rates at the tertiary level would probably appear to be even larger if we were able to measure with more precision the various kinds of tertiary qualifications.

Gender differences with regard to educational attainment have gradually diminished and a significant part of the educational expansion can be ascribed to the strongly increased educational participation of women However, the extent of gender equality or of even an advantaged position of women is probably overestimated when using only broad measures of tertiary qualifications. More detailed analyses for selected countries have shown that even in the youngest cohorts men still hold a larger share of the highest and most advantageous tertiary qualifications while women obtain a larger proportion of the lower, less rewarding and less prestigious tertiary degrees.

There are country differences in the age at which youngsters attain a certain level of education as well. On average, youngsters leave the basic level of education by receiving any diploma at a higher educational level at the age of 19. However, there are some countries that have opportunities to exit basic education at a somewhat later age (for instance in the Netherlands). Especially, arrangements such as adult education offer older people a 'second chance' to increase their highest level of education attained so far. With regard to the graduation ages in tertiary education there is much more variation between the member states. In the European Union as a whole, students normally obtain their degree in higher education at the age of 23. However, there are countries like Ireland, where the typical graduation age is relatively low, whereas in Germany, for example, tertiary degrees are obtained at a rather late age.

Most likely the largest differences between the EU member states exist in terms of the organisation and curricular differentiation of secondary education, in particular with respect to the relative share of general and vocational qualifications and the mix of such qualifications offered on the educational market. Unfortunately, the ECLFS data only allow a very broad mapping of these differences between European countries and some of the results even appear inconsistent with research from other national data bases. Nevertheless the data seem to lend support to one interesting observation when combining the results on the vocational / general distinction at the secondary level of education and those on the recent expansion in participation rates at the tertiary level. In countries with a large share of vocational qualifications on the secondary level (Germany, Austria, The Netherlands, the Scandinavian countries and – when measured correctly – Italy) participation rates at the tertiary level clearly increased less than in the countries in which vocationally oriented training is less developed.

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Appendix

Table A.1. The impact of age and birth cohort on the attainment of ISCED0-2: predicted logit effects

	EU	SE	DK	FI	DE	AT	NL	UK	IE	FR	BE	LU	IT	ES	PT	GR
Intercept	49.523	100.719	80.289	77.525	72.778	39.606	55.404	42.650	59.999	47.929	54.477	31.963	58.581	41.419	56.664	62.697
Age	-5.443	-11.046	-8.982	-8.505	-7.927	-4.385	-6.009	-4.711	-6.911	-5.218	-6.140	-3.354	-6.534	-4.753	-6.125	-7.132
Age^2	.193	.387	.324	.298	.278	.153	.208	.169	.256	.180	.222	.116	.237	.176	.218	.260
Age^3	-.002	-.004	-.004	-.003	-.003	-.002	-.002	-.002	-.003	-.002	-.003	-.001	-.003	-.002	-.003	-.003
Birth cohort																
- 1953-1957	2.119	x	.408	x	1.181	x	2.934	2.038	1.384	2.112	1.897	2.973	1.284	1.434	2.331	1.394
- 1958-1962	1.498	.111	-.089	1.141	.682	.808	1.990	1.542	1.005	1.732	1.358	2.096	.935	.968	1.714	1.082
- 1963-1967	1.077	.059	-.295	.707	.391	.525	1.388	1.236	.841	1.400	.939	1.519	.818	.685	1.395	.871
- 1968-1972	.537	.726	-.575	.793	.068	.476	.607	.695	.420	.794	.298	.865	.479	.379	.793	.534
- 1973-1977	ref.	ref.	ref	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.

ref. reference category; x no observations

Source: EUROSTAT, Community Labour Force Surveys 1988-1997, own calculations

Table A.2. The impact of age and birth cohort on the attainment of ISCED5-7: predicted logit effects

	EU	SE	DK	FI	DE	AT	NL	UK	IE	FR	BE	LU	IT	ES	PT	GR
Intercept	-62.086	-70.045	-74.335	-101.829	-37.408	-78.673	-69.689	-65.442	-63.957	-79.798	-67.792	-27.547	-95.587	-84.340	-87.788	-64.455
Age	6.040	6.918	6.828	8.160	3.015	7.290	6.686	6.588	6.560	8.160	6.841	2.381	8.801	8.598	8.475	6.197
Age^2	-.198	-.228	-.212	-.277	-.833	-.231	-.214	-.222	-.224	-.277	-.232	-.071	-.277	-.291	-.277	-.202
Age^3	.002	.003	.002	.003	.001	.002	.002	.003	.003	.003	.003	.001	.003	.003	.003	.002
Birth cohort																
- 1953-1957	-1.083	x	-.015	x	-.167	x	-.940	-1.233	-1.653	-1.268	-.619	-1.694	-.554	-1.931	-1.281	.667
- 1958-1962	-.910	-.238	.004	.084	-.096	-.353	-.890	-1.049	-1.505	-1.138	-.376	-1.175	-.493	-1.541	-.999	.471
- 1963-1967	-.730	-.225	.046	.271	-.029	-.287	-.899	-.834	-1.074	-.923	-.116	-.855	-.369	-1.097	-.751	.550
- 1968-1972	-.448	-.293	.178	.250	.025	-.225	-.694	-.568	-.559	-.482	.092	-.430	-.074	-.604	-.305	.407
- 1973-1977	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.	ref.

ref. reference category; x no observations

Source: EUROSTAT, Community Labour Force Surveys 1988-1997, own calculation

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Comparative Analysis of Transitions from Education to Work in Europe

The integration of young people into the labour market within the European Union: The role of institutional settings

Rolf K.W. van der Velden

Maarten H.J. Wolbers

Research Centre for Education and the Labour Market (ROA)
Maastricht University
P.O. Box 616
6200 MD Maastricht
The Netherlands
E-mail: r.vandervelden@roa.unimaas.nl
m.wolbers@roa.unimaas.nl

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Abstract

In this paper we investigate to what extent the labour market integration of young people within the European Union is influenced by national institutional contexts of both the employment system and the education/training system. For this purpose, data of the 1992-1997 European Community Labour Force Surveys (ECLFS) were used. We looked at three important indicators that capture the (lack of) labour market integration of youngsters: the odds of being unemployed, the odds of having a temporary job and the odds of having a part-time job. To estimate systematic variation between countries, multilevel analysis was applied in which variation within countries between individuals and variation within countries between periods is statistically controlled for. The results of this analysis showed that the labour market integration of young people within the European Union is indeed systematically structured by national institutional contexts. With regard to national institutional factors concerning labour market regulation, it is primarily the employment protection of the existing labour force that has a damaging effect on the integration process of youngsters. In countries with less strict employment protection legislation, school-leavers find a (stable) labour market position more easily than in countries with highly strict employment protection legislation. With regard to institutional characteristics of education systems, it is clear that the presence of a dual system - as a workplace-based vocational training system - improves the transition from school to work in a country.

1. Introduction

The transition from school to work has been a major research topic over the last ten years (for an overview, see Hannan and Werquin (1999) or Ryan (1999)). The main reason for this attention is the occurrence of persistently high youth unemployment rates since the eighties. A considerable proportion of young people is unemployed in the period after leaving school, and even the youngsters who immediately find a job, often work in vulnerable positions. This makes the integration process of young people into the labour market far from smooth and the transition from school to work can, therefore, be characterised as a turbulent and uncertain period for young people (OECD, 1998: 111). Furthermore, growing globalisation and competitiveness, in combination with rapid technological changes, have made education and training of increasing importance in the social stratification process and as an economic growth factor.

The underlying sources of problems faced by young people during the transition from school to work in different national education and employment structures are difficult to disentangle. This creates the need for an institutional framework that helps to determine the factors affecting success and failure in the labour market integration of youngsters (Kerckhoff, 1995). To address this issue, we investigate in this paper the way in which national institutional settings affect the integration process of young people into the labour market within the European Union. These institutional settings refer to national institutional contexts with regard to both the employment system and the education/training system. The aim is to highlight similarities and differences in the integration patterns between the various countries and to relate these to differences in national institutional contexts.

For this purpose, the European Community Labour Force Survey (ECLFS) data set is used. This cross-sectional data set combines the original Labour Force Surveys (LFS) as conducted by the individual Member States. This pooled data set, which consists of information covering the period 1992-1997, is the best one available for the moment to determine differences in school-to-work patterns in Europe. On the basis of this data set we apply multilevel analysis, which allows us to control for structural effects in the integration process with regard to both institutional differences between countries and changing labour market circumstances in terms of business cycle effects.

The remaining part of this paper is organised as follows. Section 2 contains the theoretical background of the paper, in which a set of hypotheses is formulated about the impact of national institutional arrangements on the integration process of young people into the labour market. In section 3 we discuss the research design of the paper. The formulated hypotheses are then empirically tested in section 4. The paper ends with a concluding section that summarises and discusses the most important findings of the paper.

2. Theoretical background

2.1 National institutional contexts related to industrial relations

Insiders versus outsiders

The integration of youngsters into the labour market is largely dependent on the extent to which the labour market absorbs school-leavers. The insider-outsider theory appears very promising and interesting in this respect (Lindbeck and Snower, 1988). As its name indicates, this theory relies on the distinction between 'insiders' and 'outsiders'. Employed workers are insiders and unemployed workers are, in general, referred to as outsiders. However, a specific group of outsiders consists of labour market entrants (De Vreyer *et al.*, 2000), since school-leavers without any work experience have to compete for available jobs with those who have already gained a position on the labour market. According to the insider-outsider theory, wage bargaining takes place between insiders and employers. Outsiders play no role in this process. The main interest of insiders is to stay employed. They set their wage strategically so that their continued employment is assumed. The employment of outsiders has no priority. As long as the economic system is not submitted to radical changes in social institutions or a big shock (such as an oil crisis or a major war), insiders bargain so as to get the highest wage level possible without losing their employed position. As a consequence, nothing changes and outsiders remain unemployed.

The level at which wage bargaining takes place determines the strength of the insider-outsider dichotomy and, therefore, the degree of youth labour market integration. At one extreme, wage bargaining is called centralised when employees and employers are organised into nation wide unions, where the rate of unionisation of both employers and employees is high and where wages are negotiated at the central level. At the other extreme, firms and employees can negotiate on wages at the level of the individual enterprise. In that case, the wage bargaining structure is labelled as decentralised. Lastly, wage bargaining is called intermediately centralised when wage negotiations occur at industry level.

Calmfors and Driffill (1988) have argued that the unemployment levels of countries - and implicitly the insider-outsider dichotomy - are lowest at both extremes of the centralisation continuum. Countries characterised by intermediately centralised economies, however, have to deal with higher unemployment rates. This phenomenon is known as the hump-shaped relationship between the degree of centralisation and unemployment.

The arguments for this relationship are sought in imperfectly competitive labour markets. Both in decentralised and centralised wage bargaining systems, the agents involved in the bargaining process face a very adverse trade-off between the real wage and employment, but for different reasons. The trade-off is adverse for decentralised unions, because if they set a high money wage this will be passed on in the price of the firm. The price increase will lead to a substantial loss of demand for the firm's products and consequently will lead to lower employment at the firm. Together, these factors will induce unions that operate in decentralised wage bargaining systems to set moderate wage demands. In a centralised wage bargaining structure on the other hand, high money (nominal) wages set by unions will not lead to equally high real wage increases, because of the high degree of unionisation. This high degree of unionisation will lead to high money wages throughout the whole economy and, consequently, to high price changes throughout the whole economy, too. The only effect that setting high money wages will have is a deterioration of the international competitive position. Again, there is no incentive for unions to set high money wages.

The contrary applies to unions operating in intermediately centralised wage bargaining systems. High money wages set by unions will lead to only a limited loss of demand for the products of the firm if this firm passes on the wage increases to the product prices, because all firms within the sector have to increase their prices. The other argument which would induce unions to set moderate wage demands - *i.e.* high nominal wage demands will not lead to high real wage increases, because of the general price increases - does not apply or only partially applies to the intermediate case, too. Only prices within the same sector will rise, but not those in other sectors, which will make real wage increases nearly as high as nominal wage increases. Therefore, in intermediately centralised wage bargaining systems, there is indeed an incentive to set high wage demands.

In previous empirical results, however, there is little systematic evidence of a hump-shaped relationship between the degree of centralisation of the wage bargaining process and the level of unemployment (OECD, 1997: Chapter 3). Instead, some authors (for example Soskice, 1990; Layard, Nickell and Jackman, 1991) challenged Calmfors and Drifill's conclusions and proposed a negative linear relationship. Their argument is that the favourable performance effects of increasing centralisation that arise from taking the macroeconomic results of any agreement on wages into consideration are stronger than the adverse effects from imperfect product market competition. In addition, Soskice (1990) concentrates on co-ordination instead of centralisation. He argues that it is not the locus of the formal wage bargaining that is relevant, but the degree of consensus between the agents in the collective bargaining process. In this way, co-ordination and centralisation may be seen as two different paths to achieve the same goal. Therefore, our first hypothesis is:

Hypothesis 1: The more centralised/co-ordinated the wage bargaining structure is in a country, the more likely it is that within this country young people are integrated into the labour market.

Irrespective of the degree of centralisation/co-ordination of the wage bargaining structure, it is assumed that the degree to which workers' wages are determined by collective bargaining or the degree to which workers are unionised in a country is important. In principle, union power is insider power. Therefore, we expect that the power of unions is likely to play an important role in the integration process of youngsters into the labour market:

Hypothesis 2: The more power unions have in a country, the less likely it is that within this country young people are integrated into the labour market.

Apart from wage bargaining, insiders negotiate about employment protection. Employment protection refers to regulations concerning both hiring and firing and is intended to reduce economic uncertainty of workers by enhancing job security (OECD, 1999: Chapter 2). In general, insiders try to increase their job security by fixing more firmly a number of employment conditions (such as period of notice, severance pay, seniority) in the law and/or collective labour agreements. In particular, seniority is a major criterion. Usually, this principle prohibits the firing of settled employees and youngsters, who are the last employees that entered the firm, will be the first to be fired if the firm needs to do so. This is called the principle of last in first out (LIFO) (Oswald, 1987). For outsiders, employment protection tends to trap them in long-term unemployment or in an unstable position shifting between unemployment and temporary jobs. This is especially true for school-leavers. From this point of view, employment protection legislation undermines the chances of getting a stable labour market position for young people. This leads to the following hypothesis:

Hypothesis 3: The stricter the employment protection legislation is in a country, the less likely it is that within this country young people are integrated into the labour market.

2.2 National institutional contexts related to the education and training system

Vocational specificity

Apart from national differences related to labour market regulation, cross-country variation with regard to institutional arrangements in education and training systems affect the integration process of young people into the labour market. First of all, countries differ in the extent to which there is an institutional link between the education and training system on the one hand and the employment system on the other (Maurice, Sellier and Silvestre, 1982; Hannan, Raffe and Smyth, 1997; Müller and Shavit, 1998). Basically, this debate refers to the extent to which education systems differentiate between academic and vocational education. Some countries offer mainly general education. In such countries, education is weakly related to the workplace and vocational training is primarily obtained on the job. In other countries, occupation-specific skills are taught in the education and training system. Here, the link between the education/training system and the employment system is strong. The way, in which this close link between the education/training system and the employment system is institutionalised, may differ. In some cases, the teaching of vocational skills is shared between vocational schools and the workplace, such as in the apprenticeship systems in Germany and surrounding countries ('dual system'). In other cases, however, the provision of vocational skills is primarily school-based.

In vocational programmes that are mainly occupation-specific - irrespective of how these programmes are institutionalised in the education system -, school-leavers have few transferable skills, which prepares them for a few, particular jobs. For employers these school-leavers are very attractive to hire, since the curricula of vocational programmes already supply them with the skills required for the job, which reduces the training costs for employers. Consequently, it is expected that in countries that provide a differentiated system of vocational education, the association between education and labour market outcomes is tighter, and, subsequently, young people are more easily integrated into the labour market than in countries that offer primarily general education. This leads to the following hypothesis:

Hypothesis 4: The more vocationally specific the education system is within a country, the more likely it is that within this country young people are integrated into the labour market.

Standardisation and stratification

The school-to-work transition in countries also differs according to the standardisation of educational provision and the stratification of educational opportunities within the education system (Allmendinger, 1989; Müller and Shavit, 1998). Standardisation concerns the degree to which the quality of education meets the same nation-wide standards - for example with regard to teacher training, school budgets, curricula and uniformity of examination/certification terms. Stratification has to do with the extent and form of tracking at the secondary educational level (see Müller and Shavit, 1998: 50). In highly stratified education systems, pupils are divided into separate tracks very early in their educational careers. Furthermore, in these systems it is difficult to switch between tracks, since the tracks are so diverse. On the other hand, in countries characterised by a low degree of stratification, the diversity between different tracks is limited, which results in high mobility between tracks.

It is assumed that the relationship between the educational qualifications and labour market outcomes of individuals is tighter in countries that have a highly standardised and stratified education system. The reason for it is that high standardisation and stratification make screening by employers easier. High standardisation makes the qualities of school-leavers simple to interpret and compare. High stratification leads to school-leavers having specific skills. Once again, this makes screening by employers easier, because in that situation employers know exactly what kind of school-leaver they need to accept for the specific vacancy they have. In the absence of high standardisation and high stratification, it will be more difficult for employers to screen the best qualified individual for their vacancies. Therefore, it is expected that a high degree of standardisation and stratification of the education system facilitate the integration process of young people into the labour market. Since in all European countries the education/training systems are highly standardised - in contrast with, for instance, the United States - (Hannan *et al.*, 1999; Müller and Shavit, 1998), we only formulate a hypothesis with respect to the stratification of the education system:

Hypothesis 5: The more stratified the education system is within a country, the more likely it is that within this country young people are integrated into the labour market

Selectivity

Lastly, the selectivity of the education system affects transition processes from school to work. In this paper, selectivity refers to (explicit state policies to) expand or limit the education system. In general, educational participation has grown everywhere in Europe in recent decades, but from different starting points, in different ways, and with different results (Müller and Wolbers, 1999). Educational growth has been driven by various considerations. First of all, the increase in educational participation has been desired ideologically in order to reduce the unequal distribution of educational attainment between social groups (Shavit and Blossfeld, 1993). Secondly, due to rapid technological changes, more and more occupations on the labour market require higher skill levels (Denison, 1962). Thirdly, rapid educational expansion has been an answer to recent social problems, such as youth unemployment, that keep young people out of the labour force - and in the education system - as long as possible (Hannan and Werquin, 1999).

In order to enhance educational expansion, institutional reforms of the education system have been implemented almost everywhere. It is assumed that the existing national traditions in the set-up of educational institutions and in the provision of education have affected the course of educational reforms and, subsequently, the degree of educational expansion (Müller and Wolbers, 1999: 20). In particular, the (non) existence of an established tradition of vocational education has determined the course of reforms. Especially in countries that have no tradition of vocational orientation in secondary education, the need and pressure for an extensive system of tertiary education are large, and for these countries one should therefore assume a strong growth in educational participation at the tertiary level.

Excessive expansion of tertiary education has detrimental consequences for labour market outcomes (Boudon, 1974). At the level of individuals, it forces young people to obtain ever more and higher levels of education, just in order to stay in a favourable position in the job queue (Thurow, 1975). At the societal level, high enrolment rates in tertiary education may lead to credential inflation. That is, if there are more highly educated school-leavers than the labour market can absorb, the labour market value of credentials declines (Brauns, Müller and Steinmann, 1997; Gangl and Brauns, 1999; Wolbers, De Graaf and Ultee, 2001). In that situation, a number of highly educated individuals has to accept jobs for which the required level of education is lower than the actual attained level ('over-education'). In addition, the oversupply of highly educated school-leavers may lead to unemployment or employment exclusion among them, especially among the least qualified. Therefore, it is expected that a less selective education system, characterised by a large growth of educational participation at the tertiary level, hinders the integration of youngsters into the labour market. Or formulated the other way around:

Hypothesis 6: The more selective the education system is in a country, the more likely it is that within this country young people are integrated into the labour market.

3. Research design

3.1 Data

In this paper, we use the European Community Labour Force Survey (ECLFS) data set to determine the integration of young people into the labour market. This cross-sectional data set is a combination of the original Labour Force Surveys (LFS) as conducted by the individual countries. Together they form the ECLFS data set, which is the best available data set for the moment to address the issue of the transition from education to work in Europe. The data set is attractive for the large sample size, the standardised survey design and the wide range of characteristics related to current labour market participation and employment. The ECLFS is an annual data set and we make use of data collected during spring time in the period 1992-1997 (due to their recent membership of the European Union, we only have information for Austria, Finland and Sweden for the last three years).

To describe the transition from school to work, we have to define school-leavers. Since the ECLFS data set is a cross-sectional data set describing current labour market participation, individual trajectories into the labour market are not captured by the data. In this paper we therefore adopt an indirect approach to identify school-leavers. First of all, we know the current employment status of all respondents. In addition, in the available data set a retrospective question is included asking the respondent to give his or her employment status one year before. By combining the information originating from these two questions, we select school-leavers out of the total labour force.

A drawback of this approach is that is does not per se follow that the respondents in question have permanently left initial education. It might well be that youngsters leave the education system temporarily and return later. Consequently, some individuals that are considered here as school-leavers are not school-leavers in the strict sense. More important, there is quite a large proportion of youngsters combining schooling and paid employment (Welters and Wolbers, 1999). The ECLFS data set is based on regular ILO conventions and definitions of the labour force (ILO, 1990). This implies that individuals who are currently both in employment and in initial education or training (*i.e.* working students and youngsters participating in apprenticeship systems) are counted as employed, whereas their main activity actually is student. Therefore, a small modification to the ILO definition is applied in this paper. All people who are employed, but who are in initial education or training at the same time, are excluded from the labour force.

3.2 Measurement of variables

Independent variables at the individual level

We distinguish two types of school-leavers: recent and less recent school-leavers. This distinction is made, because the two types of school-leavers are at different stages of the transition process, which surely has consequences for the extent to which the groups are integrated into the labour market. A recent school-leaver is defined as someone who was in initial education or training one year before the survey and who at the time of the survey is no longer a student. To define the group of less recent school-leavers, we use the typical graduation age of students, which is the average age of the group of recent school-leavers during the survey minus one year. We compute this average graduation age for each educational level and for each country. Taking this graduation age into account, a less recent school-leaver is defined as someone who, given his or her educational level and country, is aged between one and five years older than the graduation age of a school-leaver having the same educational level and living in the same country. This definition implies that we compare throughout the various countries, individuals who have (potentially) equal labour market experience, which is of crucial importance if one wants to compare national differences in the integration process of youngsters into the labour market.

The differentiation of the various kinds of qualification levels and the identification of similar levels across countries constitute a difficult task, because of the different structures of the education systems. In particular, it is problematic to establish equivalencies among different tertiary level certificates in different countries. Some countries classify certain programmes as secondary level education, whereas others regard them as tertiary level education. For the current analysis, therefore, we use a broad rather than a narrow definition of educational levels. We distinguish three levels of education, namely the lower, middle and upper part of the educational range, based on the seven-level International Standard Classification of Education (ISCED) (UNESCO, 1975). The first group consists of persons with a basic education (often compulsory education) up to a lower secondary education at most (ISCED 0-2). The second group consists of youngsters having attained at most upper secondary education (ISCED 3). The third group is made up of individuals with all kinds of tertiary education (non-university tertiary education as well as university-based tertiary education) (ISCED 5-7).

Gender differences with respect to the integration process are investigated by distinguishing men and women in the analysis.

Independent variables at the contextual level

To measure the level of centralisation and co-ordination of the wage bargaining structure in a country, we created three distinct categories. Table 1 shows that Austria and Germany are defined as countries with a centralised/co-ordinated wage bargaining system. Ireland and the United Kingdom are classified as decentralised/unco-ordinated. All other countries within the European Union represent systems in which wage bargaining takes place at the intermediate level. The power of trade unions is operationalised as the percentage of workers who are members of a trade union. Trade union membership within the European Union is most prevalent in the Scandinavian countries. In France and Spain, on the other hand, union density is rather low. Employment protection, measured by the overall strictness of employment protection legislation, is by far the strictest in the South European countries. In Ireland and the United Kingdom, however, the existing labour force has relatively little protection against dismissal and other forms of job insecurity.

Table 1. National institutional contexts with regard to the employment system

Country	wage bargaining structure[a]	union density (%)[b]	employment protection[c]
Austria (AT)	3	42	2.2
Belgium (BE)	2	54	2.6
Germany (DE)	3	29	2.9
Denmark (DK)	2	76	1.7
Spain (ES)	2	19	3.4
Finland (FI)	2	81	2.1
France (FR)	2	9	2.9
Greece (GR)	2	24	3.6
Ireland (IE)	1	49	0.9
Italy (IT)	2	39	3.7
Luxembourg (LU)	2	43	2.5
Netherlands (NL)	2	26	2.4
Portugal (PT)	2	32	3.9
Sweden (SE)	2	91	2.4
United Kingdom (UK)	1	34	0.5

[a] Wage bargaining structure is a combined indicator that measures the degree of centralisation and co-ordination of the wage bargaining system in a country. The values are based on data for 1994, as reported in OECD Employment Outlook of 1997 (OECD, 1997: Table 3.3). A '3' indicates a centralised/co-ordinated wage bargaining structure, a '2' is assigned to countries with an intermediate wage bargaining structure, and a '1' refers to countries where wage bargaining is decentralised/unco-ordinated. The value for Ireland is based on Nickell and Layard (1997). Greece and Luxembourg are, for lack of data, assigned to the European Union average.

[b] Trade union density is based on the rates of 1994, as published in OECD Employment Outlook of 1997 (OECD 1997: Table 3.3). The figures for Greece and Ireland stem from Ebbinghaus and Visser (1999) and are the rates for 1995. The union density rate for Luxembourg is the unweighted average of the other countries.

[c] Employment protection is measured by the overall strictness of employment protection legislation (EPL) in a country, as published in OECD Employment Outlook of 1999 (OECD, 1999: Table 2.5). This summary indicator refers to protection with regard to both regular and temporary employment. The figures used here are the average of the scores for the late 1980s and late 1990s. The figure for Luxembourg is computed as the unweighted average of all other countries, since there is no data available for this country.

In Table 2, the countries are classified by the institutional characteristics with regard to their education system. The vocational specificity of the education system is operationalised by two indicators. First of all, it is measured by the percentage of upper secondary students enrolled in vocational education. Especially in (countries around) Germany and the Scandinavian countries, secondary education is occupation-oriented, whereas in Southern Europe and the United Kingdom and Ireland, the general track is predominant within secondary education. In addition, we make a distinction between countries that have institutionalised vocational training by means of a separate system ('dual system'), and countries in which vocational training is mainly school-based. Countries that have in our view a substantial dual system are Austria, Germany, Denmark, Luxembourg and the Netherlands. Related to the vocational specificity is the stratification of the education system. In this paper, we define the secondary education systems of Austria, Germany, Luxembourg and the Netherlands as highly stratified, in the sense that pupils are differentiated into tracks very early in their educational careers (at the end of primary education already). The South European and Scandinavian countries, on the other hand, represent countries with a low degree of stratification of secondary education. The selectivity of the education system is operationalised as the percentage of the population that has attained tertiary education. It is assumed that the education system is more selective in countries where the attainment of tertiary education is lower. Table 2 shows that Austria, Italy and Portugal have the lowest proportions of persons with higher education. The highest percentages can be found in Belgium, Sweden, Ireland, Denmark and Spain.

Table 2. National institutional contexts with regard to the education system

Country	vocational specificity sec. educ. (%)[a]	dual system[b]	stratification sec. educ.[c]	tertiary education qual. (%)[d]
Austria (AT)	76	1	2	8
Belgium (BE)	59	0	1	29
Germany (DE)	80	1	2	21
Denmark (DK)	56	1	0	25
Spain (ES)	41	0	1	24
Finland (FI)	54	0	0	22
France (FR)	54	0	1	23
Greece (GR)	21	0	1	18
Ireland (IE)	0	0	0	27
Italy (IT)	67	0	1	8
Luxembourg (LU)	54	1	2	18
Netherlands (NL)	70	1	2	23
Portugal (PT)	14	0	0	12
Sweden (SE)	76	0	0	26
United Kingdom (UK)	58	0	0	23

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[a] Vocational specificity of secondary education is measured as the percentage of upper secondary students enrolled in public and private vocational education (including apprenticeships). The figures were reported in OECD Education at a Glance 1995 (OECD, 1995: Table P03(B)). The percentages for Greece, Ireland, Luxembourg, Portugal and Sweden are based on Figure 9 of Müller and Wolbers (1999).

[b] A '1' represents countries with an apprenticeship system in which learning and working are combined ('dual system'). All other countries are assigned to category '0', which indicates the absence of an extensive dual system.

[c] Stratification of secondary education is based on Table 1.1.a of Müller and Shavit (1998). It is coded as follows: a '0' represents the prevalence of comprehensive schools, which may or may not practise curricular and/or ability-based tracking. A '1' represents a prevalence of between-school tracking such that those on the academic track usually attend separate schools from those on the lower or vocational track. A '2' represents an extreme form of stratification with very early differentiation among a multitude of programmes. For Austria, Belgium, Denmark, Spain, Finland, Greece, Luxembourg and Portugal, all of which are countries that are missing in Müller and Shavit (1998), we took the information on the stratification of secondary education as reported in Hannan *et al.* (1999) and OECD (1995).

[d] Percentage of the population (25-59 years of age) that has attained any degree in tertiary education (ISCED5-7) is used as an indicator for the selectivity of the education system. The figures originate from Figure 2 of Müller and Wolbers (1999).

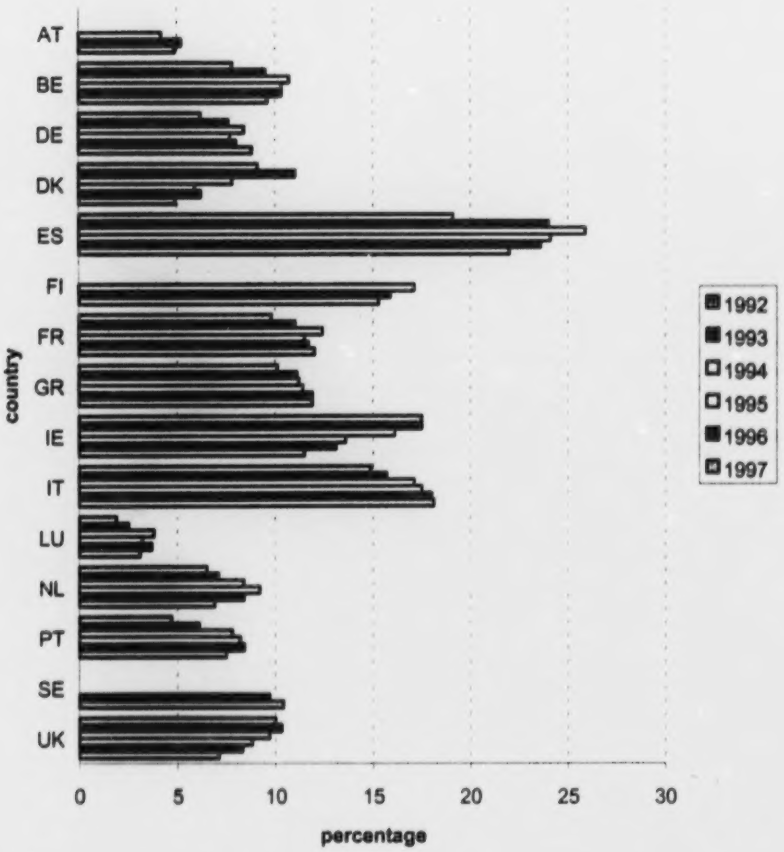

Figure 1. Aggregate unemployment rates, by country and period
source: pooled ECLFS-data 1992-1997

Some countries may go through a recession, whereas others can be in the middle of an upturn at the same time. To prevent these differences in the general labour market situation playing a distorting role in determining the impact of national institutional contexts, the effect of the business cycle has to be taken into account. Therefore, we include aggregate unemployment rates as a contextual variable in the analysis. The unemployment rates are based on the unemployed labour force aged between 15 and 59 years. The cross-country variation of trends over the period 1992-1997 is presented in Figure 1. From this figure, it can be observed that countries are indeed at different stages of the business cycle. In countries such as Germany, we find a rather low, but increasing level of unemployment. In countries such as Ireland, on the other hand, a clear decrease in the overall unemployment rate can be observed. Other countries show a fluctuating trend over time. In the Netherlands, for instance, we observe a rising percentage of unemployed people for the first years, followed by a decline in the later years.

Dependent variables

On the basis of the ECLFS data set, we analyse three aspects of the (lack of) integration of young people into the labour market: the odds of being unemployed, the odds of having a temporary job and the odds of having a part-time job. Although these dependent variables do not give a full insight into the integration process of school-leavers into the labour market, they give at least a good reflection. This is due to the rather limited availability of adequate dependent variables with regard to the transition from school to work in the ECLFS data set.

As mentioned above, we apply a modified ILO definition to determine the labour force. According to this definition, the labour force consists of any individuals who 1) have paid work (even for as little as one hour) or 2) are not working, but have a job from which they are absent at the moment or 3) are looking for work and can start working within two weeks. Deviating from the standard ILO definition, all individuals currently participating in initial education or training are excluded from the labour force. The unemployed labour force is composed of individuals who belong to condition 3). As can be seen from the upper panel of Figure 2, unemployment among school-leavers differs a great deal within the European Union. In Italy and Spain, around 40 percent of all school-leavers is unemployed. Also in Greece, a large proportion of young people entering the labour market is unemployed (30 percent). In Luxembourg, Austria, the Netherlands and Germany, on the other hand, less than 10 percent of all school-leavers is without a job. All other countries take more or less a position in the middle, and the average unemployment rate within the European Union is 21 percent.

The permanency of a job is measured by making the distinction between permanent and temporary jobs. A temporary position refers to a job with a work contract of limited duration. In the middle panel of Figure 2, the proportions of school-leavers with a temporary job across the countries of the European Union are displayed. Spain certainly has the top-rank position. In this country, almost three quarters of all workers who left initial education less than five years ago, do not have a permanent contract. This finding implies that in Spain the integration process of young people is not only hindered by a large number of individuals who cannot find a job - as shown in the upper panel of Figure 2 -, but even a major part of the youngsters who are employed, have a precarious labour market position in the sense that their contract is temporary. Finland, Sweden, France and Portugal have a relatively large proportion of school-leavers with a temporary contract as well. All other countries show percentages that are below the average of the European Union. Only in Luxembourg (six percent) and Austria (nine percent), less than one tenth of the employed school-leavers has a temporary work contract.

Due to differences between countries regarding a full-time working week, the full-time/part-time distinction is based on the subjective evaluation of the respondent and not on the number of hours actually worked. It appears that throughout the European Union, the vast majority of employed school-leavers has found a full-time job (see the lower panel of Figure 2). On average, 11 percent of all employed youngsters have a part-time job. In some countries, however, the share of youngsters who have a part-time job is substantially higher. These countries are Sweden (33 percent) and the Netherlands (23 percent). In Luxembourg and Portugal, on the other hand, only four percent of all school-leavers are working in a part-time job.

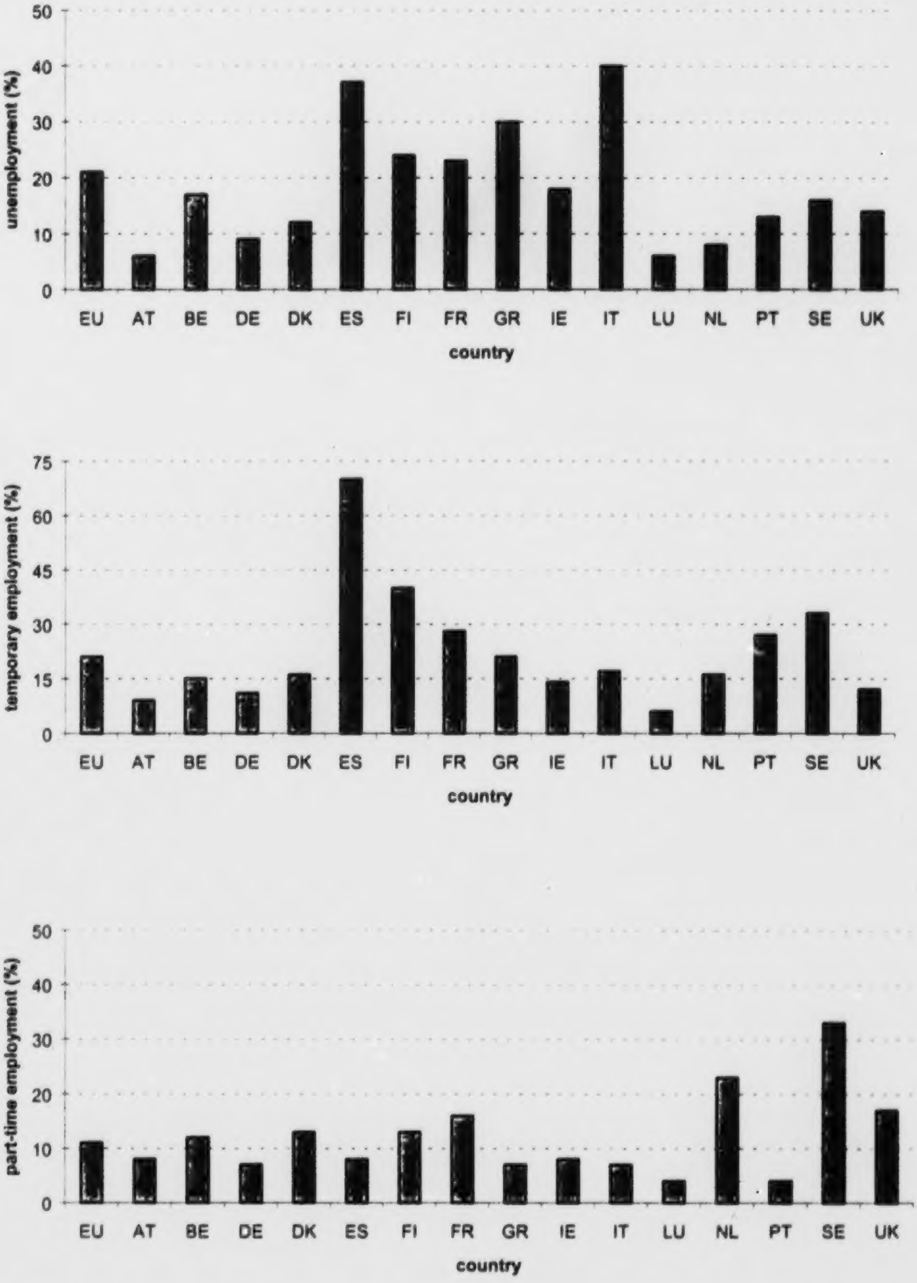

Figure 2. Cross-country variation in the labour market integration of young people
source: pooled ECLFS-data 1992-1997

3.3 Method of analysis

The method used for estimating cross-country variation in the integration process of youngsters into the labour market is multilevel analysis (Bryk and Raudenbush, 1992; Goldstein, 1995; Longford, 1993). We distinguish three levels of analysis: the school-leaver level, the period level and the country level. Because of this hierarchical structure in the data, it is possible to adequately estimate cross-country variation, since variation within countries between individuals and variation within countries between periods is statistically controlled for in the analysis. In total, we estimate six separate models in which only the intercept varies randomly ('random intercept model'). In the baseline model we start with a description of the 'gross' between-country variation. This gross variation is in principal the same as the observed differences in labour market outcomes between countries. In the subsequent models, we try to explain these gross differences between countries by taking into account the effects of the composition of the population of school-leavers (with respect to level of education, gender and type of school-leaver), the general labour market situation and institutional contexts with regard to both the employment system and the education system. This gives us insight in the 'net' cross-country variation.

4. Results

Odds of being unemployed

Table 3 presents the results of multilevel analysis regarding the odds of being unemployed. Model 0 gives an estimation of the systematic variation between countries ('between-country variation') and the variation within countries between different periods ('within-country variation'). Due to the dichotomous nature of the dependent variable, the variation at the individual level cannot be estimated and, therefore, is fixed at the value 1. Consequently, we are not able to estimate the extent to which this variation can be explained by the predictors in the different models. Nor can the variation between countries or between periods be expressed as a proportion of the total variance. The different variance components are displayed at the bottom of the table. The variance component of model 0 shows the gross variation between countries. The analysis shows that there are significant differences between countries in the odds of becoming unemployed (between-country variation is 0.546). There is also a significant variation within countries between different periods (0.021), but these differences are rather small compared to the systematic variation between countries.

The introduction of individual characteristics in model 1 shows that the odds of being unemployed is significantly influenced by the personal background of school-leavers. For recent school-leavers, the odds of being unemployed versus being employed is two times larger than the corresponding odds for less recent school-leavers ($e^{0.835} = 2.305$). Those who have left education at the ISCED0-2 level also have unfavourable opportunities on the labour market. Their odds of being unemployed are 2.413 ($= e^{0.881}$) higher than the odds for individuals who left education at the tertiary level (ISCED5-7). Those who left education at the intermediate level (ISCED3) hold an intermediate position. Furthermore, model 1 shows that women have a higher probability of being unemployed than men. The implied odds ratio is 1.169 ($= e^{0.156}$). Despite these effects, none of the individual characteristics seem to have an impact on the differences in youth unemployment rates between time periods or between countries. After all, the variance components at the country and period level in model 1 have hardly changed compared to those in the baseline model. This indicates that the differences between countries and within countries between years are related to other factors than the compositional effects of the population of school-leavers in the different countries.

Table 3. Results of logistic 3-level analysis of being unemployed

Model	0	1	2	3	4	5
Intercept	-1.509***	-2.207***	-3.681***	-3.854***	-3.497***	-3.845***
Type of school-leaver						
Recent		0.835***	0.904***	0.908***	0.911***	0.911***
Less recent		ref.	ref.	ref.	ref.	ref.
Level of education						
ISCED0-2		0.881***	0.938***	0.936***	0.941***	0.937***
ISCED3		0.481***	0.507***	0.504***	0.507***	0.505***
ISCED5-7		ref.	ref.	ref.	ref.	ref.
Sex						
Male		ref.	ref.	ref.	ref.	ref.
Female		0.156***	0.167***	0.168***	0.168***	0.168***
Aggregate unemployment rate (%)			0.121***	0.120***	0.119***	0.117***
Wage bargaining structure				-0.229		
Union density (%)				0.001		
Employment protection				0.231*		0.128
Vocational specificity sec. education (%)					0.003	
Dual system					-0.526*	-0.387**
Stratification sec. education					-0.001	
Tertiary education qualifications (%)					-0.008	
Variance components						
school-leaver level (N = 129,483)	1	1	1	1	1	1
period level (N = 80)	0.021***	0.029***	0.004**	0.005***	0.004**	0.004**
country level (N = 15)	0.546***	0.524***	0.165***	0.150***	0.184***	0.121***

* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (two tailed tests; one tailed tests for country effects)
ref. = reference category
source: pooled ECLFS-data 1992-1997

Not surprisingly, the most important of these other factors is the general labour market situation. After controlling for the aggregate unemployment rate in model 2, the residual variance component decreases at the country level from 0.524 to 0.165 and at the period level from 0.029 to 0.004. In other words, around two thirds of the systematic differences between countries and almost 90 percent of the within-country variation can be statistically explained by differences in the general labour market situation. This means that the unemployment risk of school-leavers is primarily determined by general employment conditions, which also affect the rest of the labour force. Still, there are significant differences left, especially at the country level.

Model 3 shows that a small part of these remaining differences between countries can be explained by institutional characteristics of the employment system.[1] In countries that are characterised by strong employment protection of the existing labour force, school-leavers have a higher probability of being unemployed than in countries that are more open to newcomers. This corroborates hypothesis 3. There is no significant effect of the wage bargaining structure, although the sign is in the expected direction. Countries characterised by a centralised/co-ordinated wage bargaining structure seem to be more open for labour market entrants than decentralised/uncoordinated countries and, consequently, show lower youth unemployment rates. Furthermore, union density does not seem to have any effect at all on the likelihood of becoming unemployed for school-leavers.

In model 4, characteristics of the education system are included. The results are fairly straightforward. In countries with a substantial dual system, the odds of being unemployed for school-leavers is 0.591 ($e^{-0.526}$) times smaller than the corresponding odds in countries where the dual system is of little importance. This clearly supports hypothesis 5. However, note that the effect of the dual system is not *per se* related to the vocational specificity of the education system. As dual systems are by definition strongly vocational-oriented, it is important to distinguish between these two characteristics. The positive effect of having a dual system on the integration process of young people stems from the strong allocation function of the dual system: the institutionalised pathway it provides for young people to enter the labour market. The effect does not seem so much to be related to the more strongly vocational orientation of countries with a dual system, since the effect of the proportion of secondary education students enrolled in vocational programmes is not significant.

Model 5 integrates models 3 and 4 by taking up only the significant variables of the two models. We can see that both groups of institutional factors have their own independent effect on the unemployment risk of school-leavers, although the effect of employment protection becomes insignificant. Taken together, the two variables explain one third of the residual variance in model 2. In other words: part of the remaining country differences, after taking general labour market conditions into account, can be attributed to differences in institutional arrangements, namely employment protection legislation and the existence of a dual system. Both the differences between countries and the differences within countries between periods are for around 80 percent explained by the variables in the model.

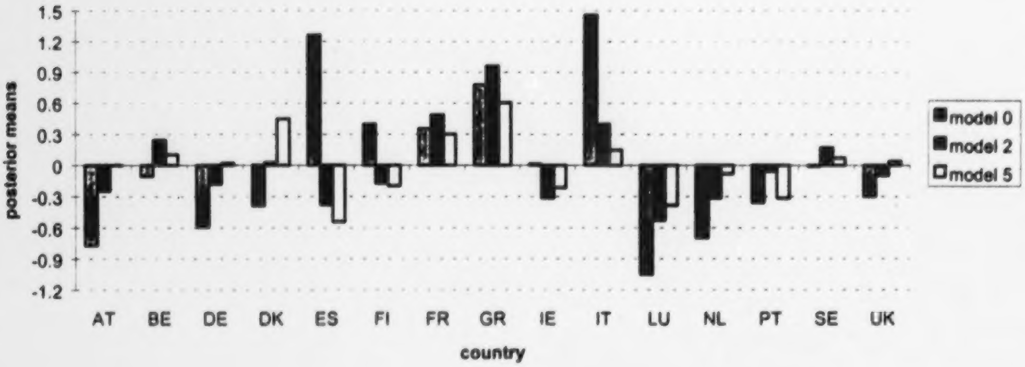

Figure 3. Cross-country performance with regard to being unemployed
source: pooled ECLFS-data 1992-1997

The effects become most clear if we look at so-called 'posterior means'. In principal, a posterior mean reflects the performance of a country as a deviation from the overall performance within the European Union, possibly after controlling for other variables. Figure 3 displays these posterior means for three different models. The posterior means of model 0 are similar to the percentages of the upper panel of Figure 2. However, these percentages are now expressed as deviations from the overall percentage within the European Union, in a somewhat different scale (an odds ratio scale). Nevertheless, the pattern of differences in performance between the countries follows exactly the description of the differences as presented earlier. We see high proportions in Italy, Spain and Greece, and low proportions in Luxembourg, Austria, the Netherlands and Germany. The posterior means of the countries in the other two models show what happens if certain variables are controlled for.

It can immediately be seen from Figure 3 that the deviations of the countries are almost fully explained by the variables in the model. The extremely high unemployment rate among school-leavers in Spain (see model 0), for example, is fully explained by the aggregate unemployment level in that country. Statistically controlled for that effect, unemployment among youngsters in Spain is even lower than the overall youth unemployment level within the European Union (see model 2). The same applies to Italy: the high unemployment rate for school-leavers in that country can fully be explained by an unfavourable general employment situation and by the national institutional context (high employment protection and the absence of a dual system). Greece seems to be an exception. The high unemployment rate among youngsters in that country can only partly be explained by the institutional factors in the model, given the fact that in model 5 Greece still shows a relatively large deviating posterior mean.

Conversely, the low unemployment rates among school-leavers in countries such as Austria, Germany, Luxembourg, the Netherlands and Denmark seem to be caused by favourable general labour market conditions and the existence of a dual system. Denmark also profits from less strict employment protection, while Austria and Germany seem to profit from the centralised/co-ordinated wage bargaining structure.

Odds of having a temporary job

Table 4 presents the results of the next analysis: the odds of having a temporary job. Model 0 again describes the variance between countries and within countries between years. The variation between countries seems larger than in the previous analysis: 0.943 as against 0.546 with respect to the odds of being unemployed.

In model 1 the individual characteristics are introduced into the analysis. The largest effect stems from the type of school-leaver. For recent school-leavers, the odds of having a temporary job are more than three times higher than for less recent school-leavers. Furthermore, low educated school-leavers (ISCED0-2) are more often in temporary positions than high educated ones (ISCED5-7). The implied odds ratio is 1.428 (= $e^{0.356}$). There is no effect of gender on the odds of having a temporary job. Both females and males run the same risk of having temporary work. None of these individual characteristics have any effect on the overall variation between countries.

Variation between countries with regard to the likelihood of school-leavers having a temporary job, is strongly affected by differences in the general labour market situation (see model 2). For each percentage of increase in a country's unemployment rate, the odds for school-leavers having a temporary job rise by 1.048 ($e^{0.047}$). Almost half of the original between-country variation can be explained by differences in the unemployment situation of the different countries. Interestingly, the within-country variation does not appear to be affected by the aggregate unemployment level (0.015 as compared to 0.013). Apparently, the variation over time is caused by other factors than the general labour market situation in a particular year.

In model 3 the institutional characteristics of the employment system are introduced into the model. As stated in hypothesis 5, in countries that are characterised by strict employment protection legislation, the likelihood of having a temporary job is higher than in countries with less strict employment protection legislation. The effects of the two other institutional contexts with regard to the employment system (wage bargaining structure and union density) also point in the expected direction, but these are not significant. In total, the institutional factors regarding the employment system cause a drop in the between-country variation from 0.526 in model 2 to 0.498 in model 3. This implies a reduction of some 5 percent.

Model 4 introduces the impact of different institutional contexts of the education system. From this model it emerges that in countries with a substantial dual system, the odds of having a temporary job for school-leavers is 0.444 ($e^{-0.812}$) times smaller than the corresponding odds in countries that do not have an extensive dual system. Again, this supports hypothesis 5. The other characteristics of the education system do not have a significant effect.

Table 4. Results of logistic 3-level analysis of having a temporary job

Model	0	1	2	3	4	5
Intercept	-1.273***	-1.505***	-2.102***	-2.956***	-2.457***	-2.643***
Type of school-leaver						
Recent		1.145***	1.219***	1.251***	1.214***	1.270***
Less recent		ref.	ref.	ref.	ref.	ref.
Level of education						
ISCED0-2		0.356***	0.388***	0.398***	0.392***	0.408***
ISCED3		0.027	0.036*	0.042*	0.038*	0.044**
ISCED5-7		ref.	ref.	ref.	ref.	ref.
Sex						
Male		ref.	ref.	ref.	ref.	ref.
Female		0.000	-0.001	0.000	-0.001	0.000
Aggregate unemployment rate (%)			0.047***	0.046***	0.047***	0.047***
Wage bargaining structure				-0.315		
Union density (%)				0.006		
Employment protection				0.478**		0.275*
Vocational specificity sec. education (%)					0.005	
Dual system					-0.812*	-0.618*
Stratification sec. education					-0.028	
Tertiary education qualifications (%)					0.018	
Variance components						
school-leaver level (N = 83,357)	1	1	1	1	1	1
period level (N = 79)	0.013***	0.013***	0.015***	0.018***	0.016***	0.016***
country level (N = 15)	0.943***	0.936***	0.526***	0.498***	0.569***	0.426***

* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (two tailed tests; one tailed tests for country effects)
ref. = reference category
source: pooled ECLFS-data 1992-1997

The last model (model 5) again includes the significant effects of employment protection and the existence of a dual system. These variables explain somewhat more than half of the original between-country variation. This means that there are still significant differences left unexplained. Figure 4 shows this for each country separately. In the figure, one can clearly see the huge differences in the gross performance between countries with regard to school-leavers having a temporary job. Spain has a very high score - indicating a high proportion of temporary employment - and Luxembourg, on the other hand, a very low one. The figure also shows that the disadvantageous position of Spain can partly be ascribed to its bad labour market circumstances in general, as well as its high degree of employment protection. However, these factors do not explain the relatively high score of Finland, nor the relatively low score of Luxembourg. It seems that for some countries (for example Austria, Germany and Portugal), the model does a good job in explaining the country's position, whereas for other countries (for instance Belgium, Finland, Ireland and Luxembourg) the model does not explain the proportion of school-leavers having a temporary job very well.

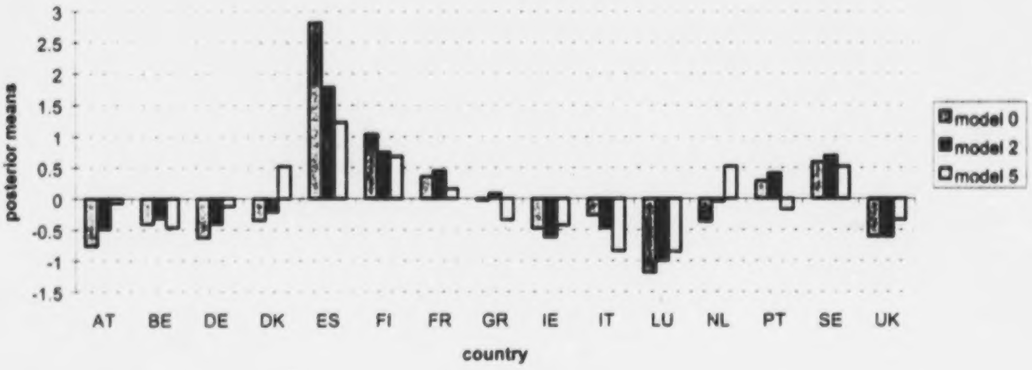

Figure 4. Cross-country performance with regard to having a temporary job
source: pooled ECLFS-data 1992-1997

Odds of having a part-time job

The final analysis relates to the odds of having a part-time job for school-leavers (see Table 5). Model 0 indicates that there are significant differences between countries. The model also shows significant variation between different time periods within a country, but this variation is small compared to the cross-country variation (0.027 versus 0.606).

All individual characteristics in model 1 have a significant effect. Not surprisingly, female school-leavers have a much larger likelihood of having part-time work than their male counterparts. For women, the odds of having a part-time versus full-time job is three-and-a-half times higher than the corresponding odds for men ($e^{1.240} = 3.456$). Similarly, recent school-leavers run a two times larger risk of having part-time work than less recent school-leavers ($e^{0.732} = 2.079$). Finally, the level of education determines the individual chances of having part-time work: the higher the level of education, the lower the probability of having a part-time job.

The general labour market situation in a country does not relate in any way to that country's proportion of school-leavers having part-time work (model 2). The small increase in the between-country variation between model 1 and model 2 indicates that adding the aggregate unemployment rate to the model even disimproves the model fit.

Table 5. Results of logistic 3-level analysis of having a part-time job

Model	0	1	2	3	4	5
Intercept	-2.022***	-3.193***	-3.424***	-3.420***	-5.891***	-6.027***
Type of school-leaver						
Recent		0.732***	0.728***	0.736***	0.745***	0.737***
Less recent		ref.	ref.	ref.	ref.	ref.
Level of education						
ISCED0-2		0.839***	0.833***	0.847***	0.850***	0.842***
ISCED3		0.335***	0.332***	0.335***	0.336***	0.331***
ISCED5-7		ref.	ref.	ref.	ref.	ref.
Sex						
Male		ref.	ref.	ref.	ref.	ref.
Female		1.240***	1.232***	1.248***	1.250***	1.237***
Aggregate unemployment rate (%)			0.023	0.038**	0.029	0.027
Wage bargaining structure				0.213		
Union density (%)				0.006		
Employment protection				-0.369		
Vocational specificity sec. education (%)					0.024***	0.020***
Dual system					-0.060	
Stratification sec. education					-0.231	
Tertiary education qualifications (%)					0.060**	0.070***
Variance components						
school-leaver level (N = 91,088)	1	1	1	1	1	1
period level (N = 80)	0.027***	0.034***	0.034***	0.033***	0.029***	0.032***
country level (N = 15)	0.606***	0.671***	0.726***	0.823***	0.377***	0.269**

* = p < 0.10; ** = p < 0.05; *** = p < 0.01 (two tailed tests; one tailed tests for country effects)
ref. = reference category
source: pooled ECLFS-data 1992-1997

In model 3, where the institutional characteristics with regard to industrial relations are added to the model, the general labour market situation does have an effect on the country's proportion of school-leavers having a part-time job. Apparently, the general labour market situation within a country is correlated with its institutional context concerning labour market regulation. The institutional characteristics themselves have no significant effect on the odds of having a part-time job.

Model 4 brings about a significant improvement of the model. This relates especially to the vocational specificity of secondary education and educational participation at the tertiary level. The more vocationally-specific a country's secondary education is, the higher the proportion of school-leavers having part-time work. So, with respect to part-time employment hypothesis 5 has been falsified. In addition, the more the tertiary education system has expanded, the higher the overall proportion of part-time work in that country. This finding corroborates hypothesis 7. Note, however, that this effect controls for the individual effect of level of education. For each individual, the odds of having part-time work are negatively correlated with his or her level of education. But the more individuals have attained tertiary education in a specific country, the higher the odds of having a part-time job for school-leavers in that country, irrespective of their own level of education.

The introduction of only the significant variables of the country's education system in model 5 shows that these explain about half of the original differences between the various countries. Figure 5 displays the posterior means for each country in the models 0, 2 and 5. The figure clearly shows the large differences in the proportion of young people having part-time work between Sweden and the Netherlands on the one hand, and Luxembourg and Portugal on the other hand. It also expresses that the posterior means in the countries do no change between model 0 and model 2, indicating that the differences between countries cannot be explained by individual characteristics and general labour market conditions. The educational characteristics of model 5 do seem to explain the specific performance of some countries such as Sweden, Portugal, the Netherlands, Italy, Greece, Ireland, Belgium and Austria. However, these characteristics do not explain the position of the other countries, most notably Luxembourg, Spain and France. In these countries, other factors cause the country-specific position with respect to the proportion of school-leavers having part-time work.

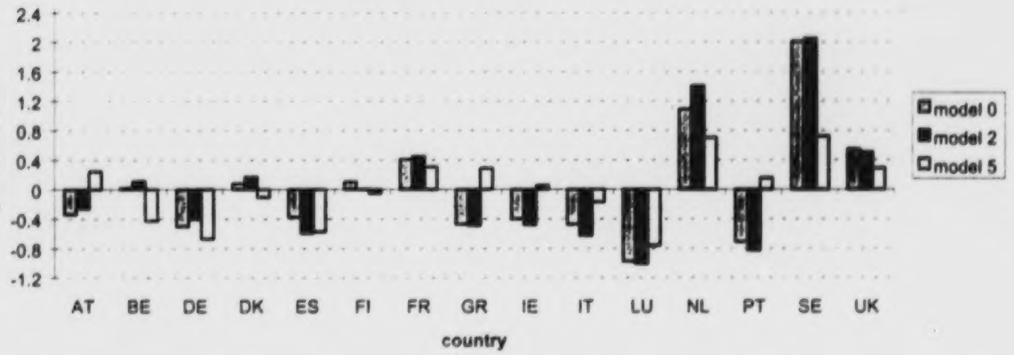

Figure 5. Cross-country performance with regard to having a part-time job
source: pooled ECLFS-data 1992-1997

5. Conclusions and discussion

In this paper we investigated to what extent national institutional arrangements both with regard to the employment system and the education/training system affect the integration of young people into the labour market within the European Union. The aim was to determine differences in the integration process between countries and to relate this cross-country variation to differences in national institutional contexts. For this purpose, data of the European Community Labour Force Surveys (ECLFS) for the period 1992-1997 were used, which provide information about three important indicators that capture the (lack of) labour market integration of youngsters: the odds of being unemployed, the odds of having a temporary job and the odds of having a part-time job. To estimate systematic variation between countries adequately, we applied multilevel analysis to the data which statistically controls for variation within countries between individuals and variation within countries between years.

The findings with regard to the likelihood of being unemployed show that there are substantial differences between countries. The highest proportions of unemployment are found in Italy, Spain and Greece, whereas the lowest unemployment rates are observed in Luxembourg, Austria, the Netherlands, Germany and Denmark. This cross-country variation in youth unemployment rates is almost fully explained by differences in the general labour market situation and varying institutional contexts with respect to employment protection and the presence of a dual system. For example, the extremely high unemployment rate among school-leavers in Spain can be attributed entirely to the high general level of unemployment in this country. If one takes that effect into account, the unemployment rate among school-leavers in Spain is even lower than the overall level of youth unemployment within the European Union. The same applies to Italy: the high unemployment rate for school-leavers in that country can mainly be explained by an unfavourable general employment situation. Furthermore, high employment protection of the existing labour force and the absence of a dual system hinder Italian school-leavers in finding a job. Greece seems to be an exceptional position. Its high level of unemployment among school-leavers can only partly be explained by the institutional factors measured in this paper. On the other hand, the low youth unemployment rates in the German surrounding countries seem to be caused primarily by the existence of an extensive dual system, even after taking the favourable general labour market situation in these countries into account. Danish school-leavers also profit from a relatively low strictness of employment protection. In Austria and Germany the centralised/co-ordinated wage bargaining structure seem to lower the youth unemployment rate in both countries.

There are huge country differences in the performance with regard to school-leavers having a temporary job. Especially in Spain and, to a lesser extent, in Finland, school-leavers often start in a job with a temporary contract. In Luxembourg and Austria, on the other hand, the proportion of youngsters who are working on a temporary basis is very low. About half of the cross-country variation can be explained by the effects of the general labour market situation and the degree of employment protection of the existing labour force. So, the high proportion of temporary employment in Spain, for instance, can basically be ascribed to its bad labour market circumstances in general and its high degree of employment protection. The other half can be explained by other, unmeasured country characteristics.

Large differences with regard to the proportion of young people having part-time work are also observed within the European Union. Sweden and the Netherlands have the highest rates of part-time employment. In Luxembourg and Portugal, on the other hand, only a few percent of all school-leavers work in a part-time job. The differences between the countries can neither be explained by individual characteristics, nor by general labour market conditions. Instead, two indicators reflecting patterns of educational participation determine to a large extent the rate of part-time employment in a country. Firstly, it is found that the more youngsters follow a vocational programme in secondary education, the higher the proportion of school-leavers having part-time work. Secondly, we observed that the higher the attainment of tertiary education is, the higher the proportion of part-time employment among school-leavers. In a number of countries, however, these two educational characteristics do not explain their position within the European Union. In these countries, most notably Luxembourg, Spain, and France, other factors cause the country-specific performance with respect to the proportion of school-leavers having part-time work.

Overall, it can be concluded from these results that the labour market integration of young people within the European Union is indeed systematically structured by national institutional contexts. With regard to national institutional factors concerning labour market regulation, it is primarily the employment protection of the existing labour force that has a damaging effect on the integration process of youngsters. In countries with a less strict employment protection legislation, school-leavers find a (stable) labour market position more easily than in countries with highly strict employment protection. This finding confirms empirically the supposed insider-outsider dichotomy in the labour market. Unexpectedly, the wage bargaining structure and trade union density do not have any effect on the integration process.

With regard to institutional characteristics of education systems, it is clear that the presence of an extensive dual system - as a workplace-based vocational training system - improves the transition from school to work in a country. The positive effect of having a dual system on the labour market integration of youngsters stems from the strong allocation function of the dual system: the institutionalised pathway it provides for young people to enter the labour market. The effect does not seem so much to be related to the more vocational orientation of countries with a dual system, since the occupational specificity of vocational education does not play an important role in the integration process. The stratification of the education system does not have an impact on the transition from school to work either.

Furthermore, it turned out that the indicators for the measurement of youth labour market integration show quite similar results. Only with respect to part-time employment it seems that this labour market outcome is a less appropriate indicator. First of all, the cross-county variation regarding part-time employment could not be explained by the factors that are - to a large extent - responsible for country differences with respect to the other indicators. Part-time employment among young people in a country is neither influenced by the general labour market situation nor by the degree of employment protection and/or the presence of a substantial dual system in that country. In addition, part-time employment is hardly correlated at the country level with the two other indicators for the integration of young people into the labour market, whereas these other indicators are fairly strong interrelated. In this paper, part-time employment has been considered in relation to young people only, while it would have been interesting to compare young people with more experienced workers in that respect. It might well be that a high percentage of part-time work in a country is not a characteristic of the youth labour market, but a more generalised feature of the labour market of that country.

Lastly, we should mention a certain limitation of this paper. Due to the rather restricted availability of adequate dependent variables in the data set used, we could not give a complete picture of the integration process of school-leavers into the labour market. Firstly, information on wages is lacking. Secondly, job match or skill use characteristics are missing. For instance, it was not possible to determine whether the actual level of education held by school-leavers fits with the theoretical level of education requested by the job ('over-education'). Thirdly, information on labour mobility is not available. Since school-leavers often start in jobs that do not match their education, job mobility is considerable among school-leavers. Therefore, in future research it would be very interesting to investigate whether national institutional contexts affect these other indicators of youth labour market integration. However, this kind of information requires other comparative data sources that are unfortunately not available (yet).

Note

1. Due to the small number of degrees of freedom at the country level (N = 15), a high level of multicollinearity can occur between the explanatory variables. Indeed some country characteristics are relatively strongly (but not extremely strongly) correlated together (see Appendix A). For this reason we decided to estimate different specifications of the models 3, 4 and 5. Appendix B reports on estimates that have been obtained from regressions in which only one country characteristic at the same time is included, *ceteris paribus.* Since the results of these regressions show similar significant effects of the country characteristics as reported in the Tables 3, 4 and 5, we can be fairly confident of the reality of such effects. Only with respect to the likelihood of having a part-time job do we find a significant effect of employment protection, which becomes insignificant if other characteristics of the employment system are statistically controlled for.

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Appendix A. Bivariate correlations between national institutional contexts

Variable	1.	2.	3.	4.	5.	6.	7.
1. Wage bargaining structure	1.000						
2. Union density (%)	-0.074	1.000					
3. Employment protection	0.508*	-0.365	1.000				
4. Vocational specificity sec. educ. (%)	0.555**	0.181	-0.031	1.000			
5. Dual system	0.548**	0.004	-0.133	0.470*	1.000		
6. Stratification sec. education	0.641**	-0.491*	0.314	0.458*	0.644**	1.000	
7. Tertiary education qual. (%)	-0.430	0.262	-0.466*	-0.083	-0.165	-0.316	1.000

note: N = 15
* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (two tailed tests)
source: pooled ECLFS-data 1992-1997

Appendix B. Single country effects for the different dependent variables

Dependent variable	being unemployed	having a temporary job	having a part-time job
Wage bargaining structure	-0.006	0.122	-0.190
Union density (%)	-0.002	-0.001	0.009
Employment protection	0.154*	0.330**	-0.370*
Vocational specificity sec. education (%)	-0.002	-0.004	0.019**
Dual system	-0.440**	-0.729**	-0.031
Stratification sec. education	-0.111	-0.293	-0.165
Tertiary education qualifications (%)	-0.005	0.026	0.066**

note: controlling for type of school-leaver, level of education, sex, and aggregate unemployment rate
* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$ (one tailed tests)
source: pooled ECLFS-data 1992-1997

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WORKING PAPERS

Learning and working: Double statuses in youth transitions within the European Union

Maarten H.J. Wolbers

Research Centre for Education and the Labour Market (ROA)
Maastricht University
P.O. Box 616
6220 MD Maastricht
The Netherlands
E-mail: m.wolbers@roa.unimaas.nl

Abstract

This paper investigates combinations of learning and working during the transition from school to work within the European Union. We distinguish three types of double-status situations: dual system students, working students, and studying workers. The empirical analysis uses data from the European Community Labour Force Surveys (ECLFS) that were conducted in the 1992-1997 period. The relevance of double statuses differs greatly between institutional contexts. Dual system participation is most important in OLM countries. Working students are most frequently found in OLM countries too. Continuous training during working life is most common in ILM contexts, which is understandable given the lack of attention to occupation-specific skills in initial education. In Southern Europe, double-status positions of any type hardly exist. Apart from these differences in relative importance, double statuses go together with specific employment situations. Dual system participants combine fixed-term contracts with full-time employment, while studying workers are not very different from their non-studying colleagues. Working students are more often employed on a part-time basis. Nevertheless, the permanency of these student jobs is fairly high, at least much closer to the situation of regular employees rather than to that of dual system students. Also with regard to the occupational status of the jobs held by young people there are substantial differences between double-status positions.

1. Introduction

The transition from school to work is a temporal stage in which young people are introduced to the world of labour. This transition process is often far from smooth and it can be characterised as a turbulent and precarious period (OECD, 1998: 111). First of all, the transition process refers to a period in which there is a great deal of labour mobility. This mobility not only concerns moves between unemployment and employment, but also shifts between jobs. Through labour mobility, both employers and school-leavers strive to establish an optimal job match (Jovanovic, 1979; Tuma, 1985). Secondly, the transition from school to work is not just a single event from full-time education to stable full-time employment. The entry into the labour market can be described as an integration process, of which it is unclear at what point in time it really starts and when it exactly ends (OECD, 1996). Often, there is a kind of gradual labour market entry, where young people combine learning and working at the same time. This learning can refer to initial education, but also to continuing investments in human capital during the working career.

In this paper, we explore the extent, structure, and evolution of combinations of learning and working during the transition from school to work within the European Union. We look at three types of 'double statuses': young people who combine learning and working in the dual system, full-time students who have jobs, and employed individuals who invest in training to advance their working career. The analysis of these double-status situations offers the opportunity to look in more detail at how the pathways from school to work are organised in various countries. For scientific purposes, this leads to a better understanding of the routes that young people take from initial education to a stable position in the labour force. For policy purposes, this enables governmental bodies to improve the relationship between education, training and working.

We start this paper by deriving hypotheses on the differences in the relevance of double-status positions among youngsters in the various institutional contexts of the European Union. Subsequently, we demonstrate how the three double-status categories can be separated from each other on the basis of the data set that is used in this paper: the European Community Labour Force Survey (ECLFS). Next, the occurrence of double-status positions in the total youth population, the student population, and the employed labour force of youngsters is presented. After that, we look at three characteristics of the jobs held by young people who combine learning and working: the permanency of their jobs, the distinction between full-time and part-time jobs, and the level of occupation attained. The paper ends with a list of the main conclusions.

2. Double-status positions and the expected effects of the institutional context

A traditional way of combining learning and working is the dual system. This apprenticeship system of vocational education refers to a situation in which pupils receive on-the-job training in the company in which they work almost full-time, while at the same time attending some day-release programmes at school. In general, the dual system is open to pupils from 15/16 years and over, with or even without a diploma at the lower level of secondary education. The courses last up to three years, depending upon the initial educational qualifications. A crucial feature of the dual system is that all actors – employers, unions, and the government – are involved and together set up the training programmes, the curricula, the standards of instruction, and the examinations (Crouch, Finegold and Sako, 1999). Pupils in the apprenticeship system are usually employees at the same time. They are not only covered by the provisions of the apprenticeship agreement, but also by the legal rights and duties of a regular employment contract, although their contract is mostly limited to the duration of the training. Given this nature of apprenticeships as being essentially regular work contracts, pupils in the dual system are often paid, although below the level of minimum wages.

The popularity of the dual system has increased considerably during the post-war period. An important reason for this is that in those days the industry required large numbers of young individuals, who could be trained in a relatively short period (OECD, 1994). The structure of the apprenticeship system was created in such a way that it could serve the different branches of industry. In Germany, for example, this has resulted in a qualitatively extensive system of training regulations in hundreds of occupations. Besides occupations in industry, it concerned particular jobs in craft and – to a lesser extent – service sectors. In more recent years, however, the number of apprenticeships in countries that had reasonably large dual systems has stabilised or even declined. According to Blossfeld (1992), the reason for this is that the dual system is not flexible enough to adjust to current changes in the occupational structure, most notably referring to tertiarisation. In countries such as France, on the other hand, the number of pupils in the apprenticeship system seems to grow (Goux and Maurin, 1998; Crouch, Finegold and Sako, 1999).

Apart from combining learning and working in the apprenticeship system, there is the recent phenomenon of student employment that allows a gradual transition into the labour market (Hutson and Cheung, 1992; Hakim, 1998; Steijn and Hofman, 1999). Today, many students have regular jobs, not just during the summer holidays, but also during the academic year. Well known are the examples of young people delivering newspapers or helping in shops on Saturdays or in restaurants in the evening hours. In general, student jobs are taken on a temporary or short-term basis, even if the job itself may contractually be a permanent one. Furthermore, the jobs that students hold are typically part-time jobs, since they have to combine these jobs with their full-time educational activities. The level of occupation may vary, although the majority of student employment will be in semi-skilled or unskilled jobs requiring little specific training.

There are two main economic arguments that may explain the rising trend in student jobs. The first reason is the relative decline in funding for higher education. Since most modern societies have moved to a mass higher education system, it has become almost impossible for national governments to give extensive grants to students to pay their living expenses and therefore they decided in the 1990s to reduce student grants. As a consequence, this measure forced students to take jobs in order to pay for their studies and to cover their living costs. From the labour demand side, there is also an argument for expecting an increasing number of working students: the numerical flexibilisation of the labour force. There are two processes that indicate that the European labour market has become more flexible recently (Delsen, 1995). First of all, much of the recent employment growth in European countries can be ascribed to the creation of part-time jobs. Secondly, labour markets in Europe have become more flexible through the increasing share of people who work in fixed-term contracts, or through temporary employment agencies. Both processes have facilitated student employment, because employers find students especially interesting in this respect (Steijn and Hofman, 1999). Students are flexible in the sense that they are often without any daily obligations (such as family life) beyond college hours and they can often work at irregular (evening) hours. This makes them very attractive to employers who offer short-term contracts or part-time jobs.

A third form of combining learning and working is the attendance of continuing training while working. In contrast to the other two double-status situations, the educational component here is continuous training instead of initial education. In general, this kind of additional training refers to enterprise-related training and it often has the function of bridging any gaps that may exist between skills which are demanded on the work floor and those that employees possess (Barron, Black and Loewenstein, 1989; Van Smoorenburg and Van der Velden, 2000).[1] According to Thurow (1975), on-the-job training can be considered as a way to obtain the knowledge and skills necessary to adequately perform a job. The initial educational background is often only used as a 'screening device' to judge the school leavers' trainability (Arrow, 1973). Enhancing productive skills, however, takes place by means of specific enterprise-related training. It can therefore be expected that studying workers have permanent jobs less often than non-studying workers, although the differences may be small. Studying workers are in the early stages of their careers with their current employer and in this period they need to do some extra training to acquire firm-relevant skills. Only after finishing this training and applying these skills successfully in the firm may temporary contracts be changed into permanent ones. Moreover, studying workers are more likely to be in part-time jobs, since their investments in additional training have to be combined with work.

Labour market segmentation theories point out that the role of these double-status positions in the transition process differs across various institutional contexts. In general, segmentation theories contrast two types of labour market structures: internal labour markets (ILM) versus occupational labour markets (OLM) (Marsden, 1990; Maurice, Sellier and Silvestre, 1986; see also Gangl, 1999). The crucial difference between them lies in the access to skilled labour market positions and it is evident that the organisation of the education and training system plays a key role in this distinction.

In countries dominated by internal labour markets, newcomers start in entrance jobs ('ports of entry'). The career patterns or profiles within internal labour markets depend to a large extent on the acquired on-the-job training (Doeringer and Piore, 1971). By means of additional training, individuals obtain the skills that are necessary to make internal upward moves (often within the same firm). In other words, the intensity of training during working life is expected to be high in internal labour markets. In countries dominated by occupational labour markets, on the other hand, a very different allocation process is applied. In the labour markets of these countries, there is a close link between the specific skills learnt in vocational education and the skills required on the labour market (Hannan, Raffe and Smyth, 1997; Müller and Shavit, 1998). Access to skilled jobs is reserved for those workers who have mastered the specific skills needed for these jobs. This means that the existence of occupational labour markets is closely related to the existence of an apprenticeship system that produces workers with occupation-specific skills. Furthermore, the acquired skills have high levels of consistency across firms or even industries, are transferable across employers, and are recognised as such (Eyraud, Marsden and Silvestre, 1990; Shavit and Müller, 2000). On the basis of this distinction in the production of skills, we derive the hypothesis that studying workers are more likely to be found in ILM countries than in OLM ones. With regard to dual system students we expect the opposite. In OLM countries, a model of workplace training combined with vocational schooling has been adopted, which leads to many young people going through this dual system.

With respect to working students, the ILM versus OLM contrast applies too, although less distinctly. As indicated above, financial need is expected to be a driving force behind the increasing trend of working students. Especially in countries with mass higher education, government subsidies for students' living expenses have fallen strongly and, therefore, the financial pressure for students to work is high. Since the recent expansion of higher education has been stronger in ILM countries than in OLM ones (Müller and Wolbers, 1999), we expect that in the former countries students are more likely to hold a job than in the latter. Moreover, in ILM arrangements unskilled or semi-skilled (student) jobs are quite easily accessible without the proper qualifications because of the entry-port employment structure in internal labour markets. In OLM countries, however, where access to jobs is much more closed for individuals without the required skills, it is likely that students have more difficulties finding jobs (which bear hardly any relationship to their studies).

Despite the simple, but very promising, contrast between ILM and OLM arrangements, this distinction cannot capture the full European picture with respect to the issue of double statuses in youth transitions. Recent studies suggest that a third institutional context should be distinguished in Europe, which clearly differs from Northern European contexts: Southern Europe (Jobert, 1997; Gangl, 1999). The Southern European countries can be characterised by at least three particular features. First of all, it should be noted that in these countries the education system hardly provides any formal vocational education, maybe with the exception of Italy. For this reason, the link between education and employment is rather weak. In addition, the employment protection of the existing labour force is fairly high in Southern Europe (OECD, 1999). This makes it very difficult for young people to integrate into the labour market. Related to this is the fact that many youngsters in Southern Europe run the risk of serious economic and social exclusion from the labour market and depend upon family support as a result of the lack of an adequate social security system (Bison and Esping-Andersen, 2000). Together, these characteristics of the Southern European labour market context lead to the expectation that – compared to ILM and OLM countries – all kinds of double-status positions play a minor role in Southern Europe. For the empirical test of this hypothesis (and other formulated ones) we turn to the next part of this paper.

3. Data and variables

The data we use for the empirical analysis come from the European Community Labour Force Survey (ECLFS) data set as conducted in the period 1992-1997. The ECLFS is a combination of the original Labour Force Surveys (LFS) as held annually in the member states and it contains some of the most important indicators on young people's labour market outcomes, such as employment chances, job security and job search.[2] The ECLFS constitutes the best available data set in this respect, because of its scale and its comparability between countries. In this paper a sub sample of individuals from the ECLFS is drawn. We analyse only those respondents who are aged between 15 and 39 years in order to capture youngsters who are in the transition process.

To define youngsters who are in a double-status position, we start by cross-tabulating information on education and training activities during the last four weeks (in education versus not in education) by the employment status (employed versus not employed).[3] This provides us with four distinct categories of education and employment activities:[4]

- employed; in education;
- employed; not in education;
- not employed; in education;
- not employed; not in education.

The first category includes all combinations of learning and working. Within this category, the three double-status positions (dual system students, working students and studying workers) are differentiated. In principal, the distinction between working students and studying workers is established on the basis of information on the purpose of the received education or training. If the purpose of the education is initial training, individuals are defined as working students. If the purpose is continuous training we call them studying workers. Employed individuals who attend a school that provides general education are always classified as working students. Furthermore, those who receive specific education in a working environment or study for some other qualification are treated as studying workers. Dual system students are defined as employed youngsters who receive specific vocational training within a system that provides both work experience and complementary instruction elsewhere (any form of 'dual system' including apprenticeship). Individuals who receive training in any form of a dual system, but for whom this is not initial but continuous training, are labelled as studying workers.[5]

To illustrate that these three combinations of learning and working are distinct in the data, we plot the age distribution of each double-status category in Figure 1.[6] In this figure, it can be seen that the modus age of dual-system students in the European Union is 18 years. About 22 percent of all dual-system students are aged 18. This percentage drops fast as age increases. At the age of 22, it stands below five percent. The deviation around the modal age is relatively small if we compare it to that of working students and studying workers. The modal age of working students is even lower than that of dual-system students (16 years), but the proportion of working students at later ages drops only gradually (from 11 percent for those who are 17 years old to still five percent for those aged 25). The modal age of studying workers is around 27 years of age, consisting of five percent of all studying workers. Just like in the case of working students, there is no real peak.

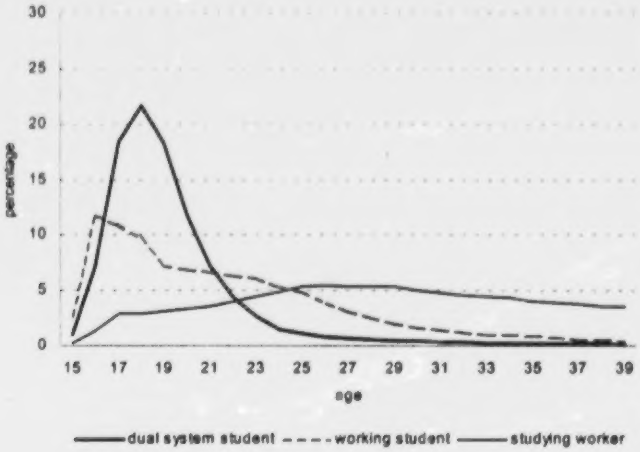

Figure 1. Age distribution of the double-status categories
source: pooled ECLFS-data 1992-1997

To determine the effects of the institutional context, we specify a grouping of countries that represents the main different institutional arrangements affecting the labour market entry of youngsters within Europe (see Gangl, 1999). The first and second groups more or less reflect the contrast between ILM and OLM systems. We define Belgium, France, the United Kingdom and Ireland as ILM countries. Austria, Germany, Denmark and the Netherlands are labelled OLM countries. As a third group, we combine the Southern European countries Greece, Italy, Spain and Portugal. Although there are some national differences within each country cluster, it seems that these country differences are minor compared with the clear contrasts between OLM, ILM and Southern European countries (Gangl, 1999: 155). Therefore, we ignore this within-cluster cross-country variation in the present analysis.

To control for differences in educational achievement, we introduce the level of education in the analysis. The level of education is measured in terms of ISCED (UNESCO, 1975). We distinguish three levels of education: primary education plus lower secondary education (ISCED0-2), upper secondary education (ISCED3), and tertiary education (ISCED5-7). For the interpretation of the effects of education, we have to keep in mind that in the analysis the level of education reflects the highest achieved educational qualification so far, and that many young people who are still in initial education will potentially upgrade their level of education later on.

Gender differences with regard to double-status situations are investigated by differentiating between men and women. Trends over time are determined by including a variable that measures the period of observation.

Three characteristics of the jobs held by youngsters in a double-status position are examined. Firstly, we look at the permanency of the job as an indicator of job security. The permanency of the job is measured by distinguishing between permanent and temporary jobs. A temporary position reflects a job with a contract of limited duration. Secondly, the part-time versus full-time contrast is analysed. This distinction is built on the subjective evaluation of the individual and not on the actual number of hours worked per week. Thirdly, we study the level of occupations. Besides a description of occupational groups, the occupational status of the jobs held by youngsters is analysed. The occupational groups are based on the first digit (major groups) of the ISCO-88 classification (ILO, 1990). The occupational status of jobs is determined on the basis of the international socio-economic index (ISEI) (Ganzeboom, De Graaf and Treiman, 1992; Ganzeboom and Treiman, 1996). Status scores were assigned to occupational titles (based on 3-digit information from the ISCO-88 classification) according to a scale that ranges from 16 for occupations with the lowest status to 90 for occupations with the highest status. Armed forces are excluded from the analysis.

4. Education and employment activities of young people

Figure 2 presents the education and employment activities of youngsters for different age groups in different institutional contexts. It is immediately evident upon inspection of this figure that age is a very important individual characteristic regarding the transition process. In general, it can be concluded that the proportion of youngsters in full-time education declines sharply over age groups, whereas the proportion of young people in a situation of (non-)employment rises strongly during the early life course. These findings confirm the basic mechanism of the transition process. The older youngsters are, the smaller the probability that they are in education or training and the higher the likelihood that they are (non-)employed. This is not a fully deterministic situation, since there is in all countries a small, but significant group of young people that is simultaneously both student and worker during the transition from school to work. For them, entry into the labour market is a gradual one.

Despite this common age pattern in all European countries, there is a great deal of cross-country variation with regard to the education and employment activities of youngsters which can be linked systematically with the institutional context. In ILM countries, the vast majority of youngsters are in the education system during the initial transition process. In France, for instance, 86 percent of all youngsters aged between 15-19 years is in full-time education. Only in the United Kingdom is this proportion considerably lower. This is due to the relatively large proportion of this age group (around one quarter) that is in a double-status position as working student or studying worker. Graduates in this country enter the labour market rather early (Müller and Wolbers, 1999), but a substantial part of them obtains job-specific qualifications using the very rich and varied supply from evening and part-time programmes in institutions of Further Education.

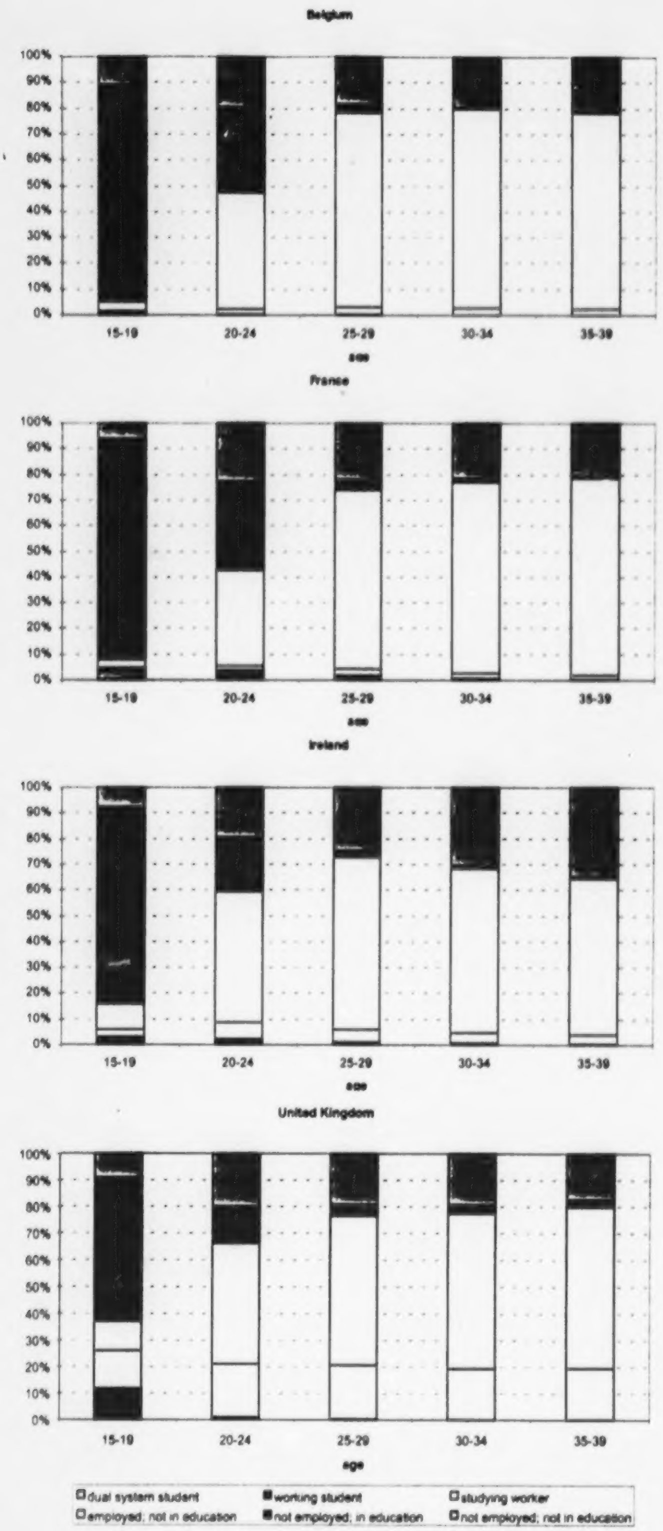

Figure 2. Education and employment activities of youngsters by age group: ILM countries
source: pooled ECLFS-data 1992-1997

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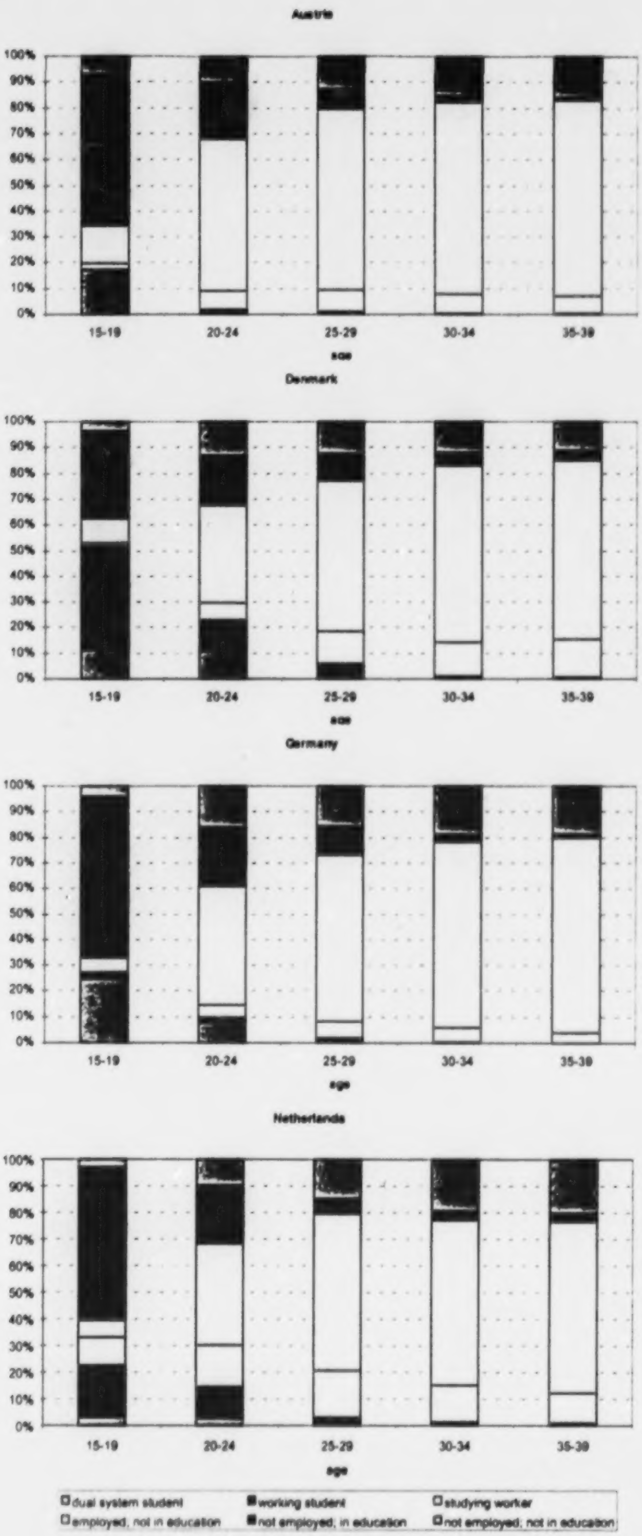

Figure 2. Education and employment activities of youngsters by age group: OLM countries (continued)
source: pooled ECLFS-data 1992-1997

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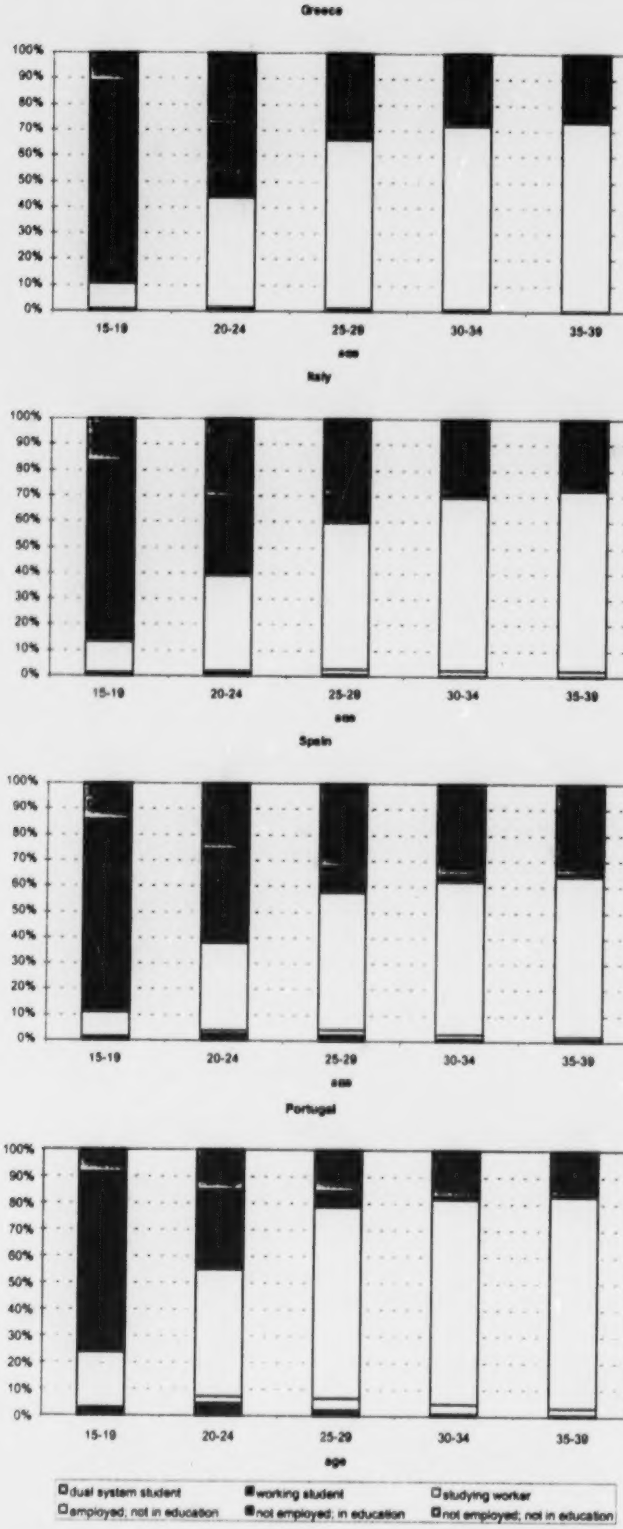

Figure 2. Education and employment activities of youngsters by age group: Southern Europe (continued)
source: pooled ECLFS-data 1992-1997

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OLM countries are characterised by much higher proportions of double-status situations. In these countries, the combination of learning and working is often institutionalised by the apprenticeship system. The large proportion of dual-system students confirms the strong link between education and employment in OLM countries. Especially in Germany and Austria, a relatively large proportion of youngsters is in the dual system. In Germany, this percentage amounts to one quarter of the youth population of 15-19 years old. In Denmark and the Netherlands, on the other hand, the percentage of youngsters in the dual system is lower, since vocational training is more often school-based in these countries. The large number of double-status positions in Denmark and the Netherlands can be attributed to the high proportion of youngsters who are in initial education and have part-time jobs at the same time. The question is whether these student jobs yield specific skills applicable in later working life.

The Southern European countries show completely different results when compared to both ILM and OLM countries. Double-status situations hardly occur in Southern Europe. Working students seem to exist, but only marginally. In Southern Europe there is a clear trade-off between school and work. Youngsters are either in the employment system or in education. Moreover, a substantial proportion of young people in Southern Europe is neither in education or training nor in employment. Such youngsters run the risk of long-term economic and social exclusion.

When different age groups are compared, we find that the categories of dual-system students and working students are clearly 'age-related'. The majority of dual-system students are aged between 15 and 24 years. Most of the working students belong to the younger age groups as well. For studying workers, there is no such clear age restriction. The reason for this is obvious, since the purpose of the education or training received is continuous vocational training. Especially in ILM and OLM countries, there is an important group of individuals who invest in learning during their occupational careers. In Southern Europe, continuous training does not seem to exist.

5. Double-status positions in the student population

In Table 1, the above-mentioned findings are refined by multinomial logit analysis. The table shows in a multivariate way the effects of various independent variables on the log odds of being in a double-status position relative to the log odds of being in full-time education. The contrasts of full-time (non-)employment with full-time education are left out in the analysis, since our main interest is in double-status situations. Model 1 shows that the effects of the institutional context are reconfirmed by this analysis. It is clear that dual-system students are found most often in OLM countries. The estimated log odds indicate that in OLM countries the odds of being a dual system student (relative to full-time student) are more than 15 times larger than the corresponding odds in ILM countries ($e^{2.749} = 15.627$). Also, the likelihood of being a working student is larger in OLM systems than in ILM ones. The implied odds ratio is 1.579 ($= e^{0.457}$). With respect to the likelihood of being a studying worker, the reverse is true. The results show that the odds of being a studying worker are higher in ILM countries than in OLM countries. In the former group of countries, the education system is hardly occupation-specific and therefore workers in these countries are often trained on-the-job. For Southern Europe, we find that youngsters in these countries have the lowest probability of being in any kind of double-status position.

As already discussed, the two youngest age groups (15-19 and 20-24 years) are more likely to be in an apprenticeship programme than the older age groups. For the two other double-status situations, a positive age effect is found, mainly indicating that the proportion of full-time educational participation declines over age groups.

Table 1. Results of multinomial logit analysis of being in a double-status position relative to not employed; in education

Model	1			2		
	Dual-system student	working student	studying worker	dual-system student	working student	studying worker
Intercept	-5.375**	-2.214**	-1.804**	-5.395**	-2.144**	-1.774**
Institutional context						
ILM countries	ref.	ref	ref.	ref.	ref.	ref.
OLM countries	2.749**	0.457**	-0.384**	2.751**	0.248**	-0.445**
Southern Europe	-1.904**	-0.662**	-2.036**	-1.798**	-0.618**	-2.119**
Age						
15-19	ref.	ref.	ref.	ref.	ref.	ref.
20-24	0.351**	0.487**	1.345**	0.353**	0.487**	1.346**
25-29	-0.673**	0.873**	2.770**	-0.669**	0.875**	2.776**
30-34	-0.197*	1.079**	3.735**	-0.195*	1.078**	3.739**
35-39	0.070	1.033**	4.093**	0.074	1.032**	4.095**
Sex						
Male	ref.	ref.	ref.	ref.	ref.	ref.
Female	-0.328**	-0.034	-0.202**	-0.863**	0.037	-0.288**
Level of education						
ISCED0-2	1.741**	-0.434**	-0.679**	1.741**	-0.441**	-0.678**
ISCED3	0.937**	-0.502**	-0.485**	0.933**	-0.500**	-0.484**
ISCED5-7	ref.	ref.	ref.	ref.	ref.	ref.
Time trend (1992=0)	-0.020**	-0.033**	-0.031**	0.063**	-0.077**	-0.027**
Institutional context * Time trend						
OLM countries * Time trend				-0.090**	0.088**	-0.015
Southern Europe * Time trend				-0.118*	0.031*	0.016
Institutional context * Sex						
OLM countries * Female				0.613**	-0.017	0.214**
Southern Europe * Female				0.533**	-0.228**	0.082
Model Chi^2	90,005**			90,210**		
Df	30			42		
Pseudo R^2	0.359			0.360		
N	202,356			202,356		

* = $p < 0.05$; ** = $p < 0.01$
ref. = reference category
source: pooled ECLFS-data 1992-1997

Gender differences can be observed as well. The parameters for gender in model 1 show that women are less likely to be in a double-status position (relative to full-time education) than men. The negative sex effect is strongest for the category of dual-system students. For women, the odds of being a dual-system student are 0.720 (= $e^{-0.328}$) times smaller than the corresponding odds for men.

With respect to the level of education, we see that the lowest educated (ISCED0-2) have the highest probability of being a dual-system student, followed by those with a certificate at the ISCED3 level. In contrast, the probability of being a working student or being a studying worker is highest among those with a degree in tertiary education.

Lastly, model 1 presents changes over time concerning contrasts of double statuses with full-time education. In all cases, we find a negative time trend. This does not mean that double-status situations have become less frequent recently. The negative effects are linked to the higher participation in education over time (see also Müller and Wolbers, 1999). The results suggest that the growth in educational participation is stronger than the increase in combinations between learning and working among youngsters.

To investigate whether these time trends vary across institutional contexts, statistical interaction terms of the institutional context with the time variable are included in model 2. Interestingly, we find that the observed negative time trend with regard to dual-system students only holds true for OLM countries and Southern Europe. In ILM countries, on the other hand, the dual system has become more important in the period 1992-1997. This finding supports the idea that countries such as France have been successful in their attempts to enlarge the number of pupils in apprenticeship programmes recently. With respect to the double-status situation of being a working student, we find significantly smaller negative time trends in OLM and Southern European countries than in ILM countries. In OLM countries, the time trend even seems to be absent. With respect to studying workers, there are no institutional differences in the effects of the time trend variable.

Interactions of the institutional context with gender are also empirically tested in model 2. The results show that the disadvantageous position of women with respect to participation in the dual system is much smaller in OLM countries and – to a lesser extent – in Southern Europe than in ILM countries. With regard to working students, the interaction terms express that the effect of gender - *i.e.* women are more likely to be working students than men - is only true for Southern Europe. In ILM and OLM contexts, there is no gender difference with regard to the probability of being a working student. Concerning studying workers, it can be concluded that women in OLM countries have a higher probability of investing in continuous training than in ILM countries.

6. Double-status positions in the employed labour force

In Table 2, we analyse double-status positions in the employed labour force among youngsters aged between 15-39 years. With respect to the institutional context, model 1 shows that all findings correspond to the results found in Table 1, although the point of reference is different. First of all, the probability of being a dual system student is much higher in OLM countries than in ILM countries. The implied odds ratio is 17.567 ($e^{2.866}$). In Southern Europe, on the other hand, the chance of participating in the dual system is much lower. Secondly, working students are most likely to be found in OLM countries, followed by ILM countries. Students in Southern Europe have the lowest probability of combining their studies with a job. Thirdly, in ILM contexts the probability of continuous training is highest among young working people, followed by OLM contexts. In Southern Europe, the likelihood of further investments in education or training during the occupational career is lowest.

Table 2. Results of multinomial logit analysis of being in a double-status position relative to employed; not in education

Model	1			2		
	dual-system student	working student	studying worker	dual-system student	working student	studying worker
Intercept	-3.676**	-0.240**	0.292**	-3.982**	-0.341**	0.137**
Institutional context						
ILM countries	ref.	ref	ref.	ref.	ref.	ref.
OLM countries	2.866**	0.447**	-0.261**	3.269**	0.676**	0.135**
Southern Europe	-2.068**	-0.486**	-1.578**	-1.975**	-0.477**	-1.637**
Age						
15-19	ref.	ref.	ref.	ref.	ref.	ref.
20-24	-2.233**	-2.126**	-1.333**	-2.227**	-2.124**	-1.330**
25-29	-4.695**	-3.381**	-1.689**	-4.688**	-3.381**	-1.688**
30-34	-5.587**	-4.456**	-1.942**	-5.578**	-4.457**	-1.939**
35-39	-5.902**	-5.052**	-2.103**	-5.892**	-5.053**	-2.101**
Sex						
Male	ref.	ref.	ref.	ref.	ref.	ref.
Female	-0.158**	0.179**	0.007	-0.626**	0.246**	0.002
Level of education						
ISCED0-2	1.969**	-0.721**	-1.161**	1.989**	-0.705**	-1.131**
ISCED3	0.672**	-0.669**	-0.660**	0.675**	-0.665**	-0.658**
ISCED5-7	ref.	ref.	ref.	ref.	ref.	ref.
Time trend (1992=0)	0.059**	0.062**	0.040**	0.251**	0.088**	0.103**
Institutional context * Time trend						
OLM countries * Time trend				-0.236**	-0.047**	-0.148**
Southern Europe * Time trend				-0.187**	-0.027	-0.034**
Institutional context * Sex						
OLM countries * Female				0.481**	-0.231**	-0.059*
Southern Europe * Female				0.939**	0.112*	0.285**
Model Chi^2	92,372**			93,057**		
Df	30			42		
Pseudo R^2	0.200			0.201		
N	413,793			413,793		

* = $p < 0.05$; ** = $p < 0.01$
ref. = reference category
source: pooled ECLFS-data 1992-1997

Very young people are more often found in double-status positions than less young people. As expected, the negative age effects are strongest for dual-system students and working students. Both double statuses are very much restricted to the youngest age groups. For studying workers, there is no clear age restriction, although it seems that most investments in continuous education or training take place at the beginning of the occupational career.

Furthermore, female youngsters are found in the dual system less often than their male counterparts. The estimated gender effect indicates that for women the odds of being a dual-system student are around one fifth smaller than the corresponding odds for men ($e^{-0.158}$ = 0.854). With respect to the other two double-status positions, women have a higher probability than men of being in these positions.

In addition, it can be observed that the likelihood of being a dual-system student is negatively related to the level of education achieved so far. With respect to the probability of being a working student or being a studying worker, the reverse is true. Higher educated youngsters are more likely to be in one of the two double-status positions than the lower educated.

A final conclusion that should be drawn from model 1 is that the share of double-status situations in the employed labour force has increased over time. Despite the relatively short period of observation, the estimated time trends are all significant. The increase has been strongest for the categories of working students and dual-system students.

In model 2, interaction terms with the institutional context are included once again. The interactions with the time trend variable show that in ILM countries, the likelihood of being a dual-system student has increased most strongly between 1992 and 1997 (0.251). In OLM countries and in Southern Europe, there has only been a slight tendency towards an increasing popularity of the dual system. The estimated log odds are 0.015 (= 0.251 - 0.236) and 0.064 (= 0.251 - 0.187) respectively. With respect to the other two double-status situations (working students and studying workers), we find similar results, *i.e.* the positive changes over time are less evident in OLM countries and Southern Europe compared to ILM countries. With respect to studying workers, we even find a small negative time trend for OLM countries (0.103 - 0.148 = -0.045).

The interaction terms of the institutional context with gender demonstrate that the negative gender effect with regard to the probability of being a dual-system student is much smaller in OLM countries than in ILM ones. In Southern Europe we even observe a positive effect of gender, indicating that in these countries women are more likely to be in the dual system than men. Furthermore, the interactions show that the positive gender effects on the probability of being a working student or a studying worker are less strong in OLM countries than in ILM ones. In the case of studying workers, men are even more likely to invest in continuous training than women in the former countries. In Southern European countries, on the contrary, the gender effect with respect to the odds of being a working student or being a studying worker is stronger than in ILM countries.

Table 3. Results of logistic regression analysis of having a temporary job

Model	1	2	3
Intercept	-1.916**	-1.260**	-1.185**
Double-status position			
Employed; not in education	ref.	ref.	ref.
Dual-system student	3.820**	3.429**	4.584**
Working student	1.563**	1.107**	1.103**
Studying worker	0.433**	0.501**	0.022
Institutional context			
ILM countries		ref.	ref.
OLM countries		-0.079**	-0.287**
Southern Europe		0.838**	0.781**
Age			
15-19		ref.	ref.
20-24		-0.124**	-0.122**
25-29		-0.789**	-0.795**
30-34		-1.252**	-1.255**
35-39		-1.536**	-1.538**
Sex			
Male		ref.	ref.
Female		0.114**	0.117**
Level of education			
ISCED0-2		-0.221**	-0.237**
ISCED3		-0.539**	-0.540**
ISCED5-7		ref.	ref.
Time trend (1992=0)		0.073**	0.077**
Institutional context * Double-status position			
OLM countries * Dual-system student			-1.051**
OLM countries * Working student			0.179**
OLM countries * Studying worker			1.125**
Southern Europe * Dual-system student			-3.012**
Southern Europe * Working student			-0.229**
Southern Europe * Studying worker			0.243**
Model Chi^2	29,409**	50,044**	51,239**
Df	3	13	19
Pseudo R^2	0.079	0.131	0.134
N	357,447	357,447	357,447

* = $p < 0.05$; ** = $p < 0.01$
ref. = reference category
source: pooled ECLFS-data 1992-1997

7. Characteristics of jobs held by youngsters in a double-status position

Permanency of the job

We now turn to differences in the labour market attainment of youngsters who are in a double-status position. We begin with the permanency of the job. For this purpose, the results of logistic regression analysis of having a temporary job are presented in Table 3. Model 1 shows that youngsters who are in a double-status position are more likely to have a temporary job than youngsters who are employed without being in education at the same time. For the contrast with dual-system students, the estimated parameter shows that the odds for youngsters who are in an apprenticeship programme are more than 45(!) times larger than the corresponding odds for youngsters who are only working ($e^{3.820} = 45.604$). The implied odds ratios for working students and studying workers are 4.773 and 1.542, respectively.

Controlling for these differences between double-status categories, there is a strong effect of the institutional context on the odds of having a temporary job (see model 2). Youngsters in Southern Europe run the highest risk of being in a temporary position, followed by those from ILM countries. In OLM countries the probability of temporary employment among young people is lowest. In addition, model 2 shows that age has a negative effect on the odds of having a temporary job. This finding indicates that younger people are less well integrated into the labour market than older ones. Furthermore, female youngsters are more likely to be in a temporary labour market position than their male counterparts. Moreover, youngsters with a certificate at the ISCED3-level have the lowest probability of having a temporary job, followed by the least qualified. Finally, the results show that temporary employment has increased over time. The odds of having a temporary job have risen by seven percent ($e^{0.073} = 1.076$) each year.

In model 3, interaction terms of the institutional context with the double-status categories are empirically tested. The results indicate that dual-system students in ILM countries are most often in a temporary labour market position, followed by those in OLM countries. In Southern Europe, the probability of having a temporary job for dual-system students is lowest. With respect to working students, it can be concluded from the interaction terms that in OLM countries these youngsters are most often found in temporary jobs. Southern European students with jobs have the lowest probability of having a fixed-term contract. For studying workers, ILM systems offer the best protection against temporary employment. In countries dominated by internal labour markets, continuous training is institutionalised very extensively, since on-the-job training is the usual way of acquiring occupation-specific skills. In OLM countries, on the other hand, studying workers are most likely to have temporary contracts.

Distinction between part-time and full-time employment

In Table 4, we present the results of logistic regression analysis with regard to the odds of being in a part-time job. Model 1 shows that working students are most likely to be in a part-time job. Compared to the odds of being in part-time versus full-time employment for workers who are not in education (the reference category in the model), the corresponding odds for working students are almost 14 times larger ($e^{2.624} = 13.791$). The interpretation for this strong effect is obvious: full-time students who work most often hold part-time jobs. For studying workers, a similar interpretation may explain their higher probability of being in part-time employment. Dual-system students are less often in part-time jobs than employed workers who do not participate in any form of education or training.

Table 4. Results of logistic regression analysis of having a part-time job

Model	1	2	3
Intercept	-1.957**	-2.850**	-2.841**
Double-status position			
Employed; not in education	ref.	ref.	ref.
Dual-system student	-1.054**	-2.019**	0.080
Working student	2.624**	2.902**	2.785**
Studying worker	0.536**	0.400**	0.155**
Institutional context			
ILM countries		ref.	ref.
OLM countries		0.160**	0.071**
Southern Europe		-1.142**	-1.133**
Age			
15-19		ref.	ref.
20-24		-0.824**	-0.823**
25-29		-0.801**	-0.797**
30-34		-0.458**	-0.448**
35-39		-0.356**	-0.348**
Sex			
Male		ref.	ref.
Female		2.040**	2.067**
Level of education			
ISCED0-2		0.593**	0.579**
ISCED3		0.263**	0.258**
ISCED5-7		ref.	ref.
Time trend (1992=0)		0.049**	0.050**
Institutional context * Double-status position			
OLM countries * Dual-system student			-2.493**
OLM countries * Working student			0.911**
OLM countries * Studying worker			0.478**
Southern Europe * Dual-system student			1.333**
Southern Europe * Working student			-0.770**
Southern Europe * Studying worker			0.737**
Model Chi^2	19,555**	71,481**	73,013**
Df	3	13	19
Pseudo R^2	0.046	0.159	0.162
N	412,702	412,702	412,702

* = $p < 0.05$; ** = $p < 0.01$
ref. = reference category
source: pooled ECLFS-data 1992-1997

Model 2 shows that the institutional context has a significant effect on the odds of having a part-time job. Compared to young people from ILM countries, youngsters from OLM countries have a higher probability of being in part-time employment. Presumably, the relatively high rates of part-time employment in the Netherlands, and – to a lesser extent – in Denmark, contribute to this effect. In Southern European countries, part-time employment is still not widespread, as can be concluded from the negative coefficient for Southern Europe.

The positive age effect indicates that the various age groups are at different stages of the transition process. Older people are more integrated into the labour market, as can be seen from their lower probability of being in a part-time job. In addition, the results show that women are more likely to have a part-time job than men, which is of course the result of women's greater responsibilities within the household. Furthermore, the lower educated run a higher risk of being employed in a part-time job than the higher educated. Lastly, a positive time trend is observed, indicating that the probability of part-time employment among youngsters has increased over time.

Model 3 again describes interaction terms of the institutional context with the double-status categories. The interactions show that the effect of having a part-time job among dual-system students is much smaller in OLM countries than in ILM ones. With respect to working students and studying workers, the odds of being in part-time employment are larger in OLM contexts. In Southern Europe, dual-system students are relatively more often in part-time employment than in ILM countries. The same holds true for studying workers. Additional training is more often combined with a part-time job in Southern Europe than in ILM countries. Working students from Southern European countries, on the other hand, have a higher probability of being in a part-time job than those from ILM countries.

Occupational status of the job

Before analysing the effect of being in a double-status position on occupational status attainment, it may be good to have a brief look at the occupational structure of the jobs held by youngsters in a double-status position.[7] Despite the crude level of differentiation (ISCO-88 major groups), we find substantial differences in the occupational distribution, both with regard to double-status category and institutional context (see Table 5). As expected, dual-system students are most often employed as craft and related trades workers (37 percent in total). This percentage is slightly higher in ILM countries and somewhat lower in OLM and Southern European countries. Furthermore, an important proportion of the dual-system students is working in service and shop/market sales occupations, especially in ILM countries (23 percent) and in Southern Europe (22 percent). Moreover, in OLM countries and in Southern Europe, a substantial group of youngsters who combine learning and working in the dual system, holds jobs in clerk and technician level occupations and in elementary occupations (only in OLM contexts). This latter finding suggests that in OLM and Southern European countries, the dual system serves much more occupations than in ILM countries.

Almost half of the working students' jobs are in service and shop/market sales occupations and elementary occupations. In ILM countries, the former occupations are more frequent, in OLM ones the latter. In all institutional contexts, the most common occupations (not presented in Table 5) are shop sales jobs (14 percent in total), housekeeping and restaurant service jobs (8 percent), and domestic and cleaning jobs (5 percent). In addition, a relatively large proportion of working students has access to higher-skilled occupations (clerical and professional jobs), possibly related to their type of study in higher education.

Table 5. Occupational structure of jobs held by youngsters in a double-status position by institutional context

	dual-system student (%)	working student (%)	studying worker (%)	employed; not in education (%)
Total				
Legislators, senior officials and managers	1	2	8	5
Professionals	2	14	21	9
Technicians and associate professionals	14	12	21	14
Clerks	13	16	18	15
Service workers and shop/market sales workers	18	27	12	15
Skilled agricultural and fishery workers	2	2	1	3
Craft and related trades workers	37	7	11	19
Plant and machine operators and assemblers	3	3	4	10
Elementary occupations	11	17	4	10
ILM countries				
Legislators, senior officials and managers	2	3	13	7
Professionals	6	16	25	11
Technicians and associate professionals	6	10	15	13
Clerks	9	16	19	18
Service workers and shop/market sales workers	23	34	13	15
Skilled agricultural and fishery workers	3	1	1	3
Craft and related trades workers	44	6	8	15
Plant and machine operators and assemblers	5	3	4	11
Elementary occupations	4	11	3	8
OLM countries				
Legislators, senior officials and managers	0	2	5	4
Professionals	1	12	16	9
Technicians and associate professionals	17	14	28	19
Clerks	14	14	16	14
Service workers and shop/market sales workers	16	23	11	14
Skilled agricultural and fishery workers	2	2	1	2
Craft and related trades workers	35	6	14	21
Plant and machine operators and assemblers	2	3	4	9
Elementary occupations	14	25	6	9
Southern Europe				
Legislators, senior officials and managers	0	2	2	3
Professionals	3	15	20	7
Technicians and associate professionals	15	14	23	11
Clerks	16	23	21	14
Service workers and shop/market sales workers	22	21	14	17
Skilled agricultural and fishery workers	1	2	1	4
Craft and related trades workers	31	10	10	22
Plant and machine operators and assemblers	7	4	5	10
Elementary occupations	5	10	5	12

source: pooled ECLFS-data 1992-1997

Continuous training during the occupational career is concentrated in higher-skilled occupations. Studying workers can in particular be found among professionals (21 percent), technicians (21 percent) and clerks (18 percent). There are some minor differences between institutional contexts. Studying workers originating from ILM countries are somewhat over-represented in professional occupations, those from OLM countries in technician level occupations and those from Southern Europe in clerical jobs.

Table 6. Results of linear regression analysis of ISEI occupational status

Model	1	2	3
Intercept	40.794**	52.294**	52.198**
Double-status position			
Employed; not in education	ref.	ref.	ref.
Dual-system student	-5.100**	3.071**	1.937**
Working student	1.164**	3.171**	4.011**
Studying worker	7.515**	4.174**	4.899**
Institutional context			
ILM countries		ref.	ref.
OLM countries		-1.884**	-1.715**
Southern Europe		0.073	0.177**
Age			
15-19		ref.	ref.
20-24		1.130**	1.129**
25-29		3.114**	3.125**
30-34		4.113**	4.118**
35-39		N/A	N/A
Sex			
Male		ref.	ref.
Female		1.774**	1.763**
Level of education			
ISCED0-2		-21.003**	-20.991**
ISCED3		-14.658**	-14.637**
ISCED5-7		ref.	ref.
Time trend (1992=0)		-0.196**	-0.200**
Institutional context * Double-status position			
OLM countries * Dual-system student			1.448**
OLM countries * Working student			-1.696**
OLM countries * Studying worker			-1.304**
Southern Europe * Dual-system student			1.547
Southern Europe * Working student			-0.684*
Southern Europe * Studying worker			-1.424**
F	2,344**	10,313**	6,887**
Df	3	12	18
R^2	0.023	0.290	0.290
N	303,413	303,413	303,413

* = $p < 0.05$; ** = $p < 0.01$
ref. = reference category
N/A = not available
source: pooled ECLFS-data 1992-1997

In Table 6, we present the occupational status of the jobs held by youngsters in a double-status position by means of linear regression analysis. Model 1 indicates that the average occupational status score for youngsters who are employed and not in education is almost 41 points. For dual-system students, the average occupational status of the jobs held is 5 points lower. The occupational status score for working students and studying workers are 1 and 8 points higher, respectively.

After controlling for the institutional context, individual characteristics, and changes over time, we observe that dual-system students acquire occupations with more status than youngsters who are only employed (see model 2). In this situation, dual-system students hold jobs that have, on average, three points more status. In addition, model 2 demonstrates that the occupational status among youngsters in ILM countries is almost two points higher than in OLM countries. In Southern Europe, the average status score is even somewhat higher, but the effect is not significant. The age dummies show a positive effect of age on status attainment, presumably indicating that individuals with work experience achieve higher job levels than those without. The gender effect indicates that women are in an advantageous position in terms of occupational status. Moreover, educational qualifications have a strong positive effect on the attainment of occupational status. The jobs held by the least qualified youngsters have much less status than the jobs performed by the highest educated. Lastly, model 2 shows that the occupational returns have declined over time. However, the implied loss in status attainment among youngsters is fairly small; only one point in the observed period of five years ($5 * -0.196 = -0.980$).

In model 3, the occupational status of the jobs held by youngsters in a double-status position is broken down by the institutional context. The results show that the occupational status achieved by dual-system students in ILM countries is around one-and-a-half points lower than in OLM and Southern European countries. With respect to working students and studying workers, similar interaction effects are found.

8. Conclusions

The labour market entry of young people is a transition process of which it is not easy to determine when it really starts and ends. In many cases, there is a kind of gradual entry into the labour market, during which many young people are simultaneously both student and worker. In this paper, we investigated the extent, structure, and evolution of combinations of learning and working within the European Union. For this purpose, data of the European Community Labour Force Surveys (ECLFS) for the period 1992-1997 were used. Three types of double statuses in youth transitions were distinguished: dual-system students, working students and studying workers.

The empirical analysis showed that these double-status categories can be clearly defined on the basis of the data. In all countries within the European Union, the occurrence of dual-system students and working students is strongly related to age. In general, most dual-system students are aged between 15 and 24 years, with a sharp peak around the age of 18. The occurrence of working students is also strongly related to age, although this is slightly more spread out than is the case with pupils participating in the dual system. Studying workers show much more variation in age, although most investments in continuous training seem to be at the beginning of the occupational career.

Despite a strong and equal link with age in all countries, the occurrence of each double-status situation among youngsters differs greatly according to the various institutional contexts within Europe. Dual system participation is most significant in OLM countries, in particular in Germany and Austria. Working students are most frequently found in OLM countries as well. Especially in Denmark and the Netherlands, a large proportion of students holds (part-time) jobs. Continuous training during working life is most common in ILM contexts, which is understandable given their lack of attention to occupation-specific skills in initial education. In Southern Europe, double-status positions of any type hardly exist. After initial education, youngsters are either employed or not in the labour force.

With respect to changes over time, it is found that the proportion of double-status situations in the employed labour force has increased over the years. This finding holds especially for ILM countries. In these countries, the likelihood of being a dual-system student has increased most strongly during the period of observation. In OLM countries and in Southern Europe, there is only a slight tendency towards an increasing popularity of the dual system. With respect to the other two double-status positions, similar results are found. The positive effects of the time trend on the likelihood of being in one of these double statuses are less evident in OLM countries and Southern Europe compared to ILM countries. Furthermore, it is observed that men are overrepresented in apprenticeship programmes. In ILM countries, the gender differences in dual system participation are larger than in OLM countries and Southern Europe. Also with respect to the likelihood of being a working student or a studying worker, gender differences are found that differ according to the institutional context.

Double statuses in youth transitions go together with specific employment situations that may differ between institutional contexts. In general, participants in dual systems combine fixed-term contracts with full-time employment, while studying workers are not found to be much different from their non-studying colleagues. Working students, in turn, are more often employed on a part-time basis. Nevertheless, the permanency of these student jobs is found to be fairly high, at least much closer to the situation of regular employees rather than to that of dual-system students. With respect to the occupations held by youngsters in a double-status position, it is observed that dual-system students are often employed as craft and related trades workers or as service and shop/market sales workers. Working students usually hold service and shop/market sales occupations or elementary occupations. Studying workers are mainly found among professionals, technicians and clerks. In terms of status attainment, studying workers achieve the highest occupational status with their jobs, closely followed by working students and dual-system students.

All in all, the findings identified in this paper confirm the impression that the originally strong boundary between full-time education and full-time employment has broken down. The recent increase in overlap between learning and working within the European Union implies a stronger occupational preparation of young people when they enter the labour market. Early work experience provides them with job-related skills that are also recognised by employers. This may lead to a smoother integration of young people into the labour market. In particular, the recent growth in the provision of apprenticeship programmes in ILM countries, such as France, may contribute to this. The recent trend towards lifelong learning may also improve young people's chances of finding secure employment. Less encouraging is the almost non-existence of double statuses in Southern Europe. In these countries, characterised by the absence of a tight relationship between education, training and employment, young people run serious risks of economic and social exclusion, not just at labour market entry, but possibly also during their later working careers.

Notes

1. More recently, the function of additional training is often associated with the idea of 'lifelong learning'. In current knowledge societies, where technological developments follow each other rapidly, the risk of skills becoming obsolete is relatively high and training is used to maintain and develop (new) skills (see for instance Bartel, 1991; Tuijnman, 1997).

2. Data from Luxembourg, Sweden and Finland are excluded from the analysis, because of small sample sizes and hence their unstable and unreliable estimates. Moreover, for Sweden and Finland, information on occupations is only available for 1997.

3. We define the employed labour force as those individuals who worked at least one hour in the week they were interviewed or those who did not work but had a job from which they were absent during the reference week.

4. This distinction implies that the education and training activities of unemployed persons are not treated separately. Instead, these individuals are classified within the group of individuals who are not employed, but in education.

5. Since the period of data collection of the ECLFS is in the Spring, *i.e.* immediately before the exams, students who work (either as dual-system student or as working student) may be underrepresented in the data set. Furthermore, only in Spain, France, the Netherlands, Portugal, and the United Kingdom, are persons in student accommodation included in the survey. Also, with respect to the (purpose of the) education and training received during the last four weeks, there are some limits with regard to the degree of comparability of the information. This implies that the differences found between the countries need to be interpreted very carefully.

6. Due to the small number of respondents in double-status positions within countries, we categorise in the remainder of this paper the yearly ages into five-year span age groups.

7. Since information on the purpose of the received education or training is lacking for this analysis, the double-status categories are defined somewhat differently. We use the age variable as a proxy to determine the purpose of training. If respondents belong to the two youngest age groups (15-19 and 20-24 years of age), their purpose of training is defined as initial, whereas for older individuals the purpose of training is specified as continuous training. In addition, information on the oldest age group is not available for this analysis due to restricted data access.

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WORKING PAPERS

The Transition Process: towards exclusion or financial self-sufficiency, a French-Irish comparison

Yvette Grelet

Michèle Mansuy

Gwenaëlle Thomas

Departement des entrees dans la vie active
MATISSE - LES
Maison des Sciences Economiques
106-112, Boulevard de l'Hopital
75647 Paris Cedex 13
E-mail: grelet@univ-paris1.fr

CEREQ-INSEE
Marseille, France
17, rue Menpenti
13387 Marseille Cedex 10
E-mail: michele.mansuy@insee.fr

Introduction

During recent decades, quick access to a full-time, permanent, well-paid job has ceased to be the standard pattern for European school-leavers. The school-to-work transition has been increasingly considered a complex time process. National institutions, education and employment policies produce various school-to-work patterns. Even if retrospective surveys show that their position on the labour market improves with time, new entrants are more likely to only get precarious part-time jobs, with low wages. Even in the countries where leavers have difficulty in securing stable employment, youth unemployment does not have the same pattern across countries. In France, youth inactivity remains rare despite a high unemployment rate among youth. In the United Kingdom in contrast, youth inactivity has seen a sharp increase, although there are greater employment opportunities for young people (see Ryan, 1999). Joblessness is more relevant than unemployment in measuring the magnitude of youth employment problems in a comparative perspective. Considerable proportions of youngsters have not even had the opportunity to reach financial independence after having spent five years on the labour market. The key question then is to find out what are the types of transition processes that lead to such an unsuccessful outcome, and then to focus on the main determining factors.

Long-term unemployment or inactivity: final step to exclusion

Previous studies modelling access to employment for young people showed that in France, the diploma is the main passport to finding a job (see Elbaum, 1988). Age and situation the year before also have important significant effects. Elbaum was the first to identify the social and family effects on the probability of being employed. If the social group of father doesn't seem to have any significant impact, being a foreigner does have a negative effect, and living in a couple situation (married or common law) reinforces the chance of having a job.

Using a longitudinal survey of French unemployed, Herpin (1990) considers the probability of getting a job within the first six months of the follow-up. Once more, age and diploma are highly significant. A quick return to employment is easier for those who were unemployed for a short period (less than three months) and is difficult for long-term unemployed (more than one year). Family context is not neutral: living as part of a couple is an advantage for men and a handicap for women. Family and social networks don't seem to provide access to jobs for married or cohabiting women. The probability of having children is presumably the source of these specific difficulties, as middle-aged women have no specific handicap by living in couple situation. In the same paper, Herpin studied the probability of unemployed people leaving the labour force within a year and a half. Lower level unemployed are more likely to withdraw from the labour market. The length of the initial unemployment spell increases.the chance of being discouraged. Having children raises the probability of leaving the labour force, especially if they were born after the first employment spell.

Low level of earnings: a broader concept of exclusion

Besides this definition of exclusion based on withdrawal from the labour market, another precarious status must be examined which corresponds to a less obvious form of social exclusion: those who do not earn enough to be self sufficient. Hence, the interest is in the factors that determine the earnings of individuals.

As wages are the result of a bargain between employees and employers, within the whole population, the range of earnings depend (apart from institutional wage regulation) both on individual factors and on occupational and firm factors.

Individual factors

According to Human Capital theory, earnings rise as the level of education increases (as a return to human capital accumulation). Experience and seniority are expected to procure a higher level of earnings, as they are indexes of general and specific human capital accumulation. The influence of seniority and experience on wages is the subject of an abundant literature –see for example Barth (1997) and for a survey of recent research see Cahuc, Zylberberg (1996), chapter 3.

Job classifications influence earnings too, being the sign of a qualification recognised (or not) by the firm. Owing to screening effects during the hiring process and/or to the specific behaviour of the corresponding agents, other individual characteristics (such as social capital, gender, and ethnicity) may affect the wages. Localisation is also likely to be a relevant factor: regional singularities, on the individual side as well as on the firm side, probably have a effect on earnings.

Working conditions

Earnings vary according to job conditions: shift hours, weekend working hours and the physical difficulty of jobs are often the subject of wage premiums. The theory of equalizing differences (see for instance Rosen, 1986) offers a formalisation of such effects.

Firm factors

Wage and bargaining policies of firms also have an effect on wages: in some firms wage increases with inflation, in others with financial results or social climate. The position of the firm on its market is important too: a dominant position may correspond to a surplus income to be shared with the employees. All these factors are usually summarised by the industry and size of the local unit. It is only a proxy, as it has been shown that heterogeneity within industry is rather high.

Using French data, the following results are obtained (Bayet, 1996):

- Class position (French CS) and experience are the main individual sources of wage dispersion, followed by gender and education.
- Size of the local unit and above all industry are the main firm factors. Wage policy and work organisation are also significant.

Another study (Kaukewitsch and Rouault, 1998) presents a French-German comparison of the range of earnings. They found similar factors for both countries: age (as a proxy for experience), seniority, gender, class position, part time (versus full time), region, type of contract (fixed term versus unlimited duration), industry and size of the local unit.

Comparing more specifically the thirty-year-old's wages during the 90's to the same age-cohort's wages in the 70's, Baudelot and Gollac (1997) show a generation effect: more educated, the thirty-year-olds of today have also less experience. And their relative wage, compared to the whole population, is lower than in the 70's. Their models use almost the same set of explanatory variables as Bayet's or Kaukewitsch and Rouault: age, class position, industry, size of the local unit and nature of the employer (public versus private) and area (urban versus rural).

The male-female wage gap is often analysed. In this case, it is not easy to differentiate the part due to women's education (see Brown and Corcoran, 1997) and behavioural characteristics, from the part due to employers' behaviour. In addition, the "mutatis mutandis" hypothesis is

difficult to support when coefficients for males and females are estimated together. It is perhaps worthwhile to at least try separate models for men and women.
A more recent paper (Bayet, Colin, 1998) reveals that although factors determining the range of earnings are well known, their change over time is much more difficult to forecast.

Methodological approach

For these empirical analyses, we use the longitudinal school leaver's surveys carried out in two European countries – France and Ireland: these surveys are harmonised in a common data-set, built for the purpose of comparative study, within the framework of the European CATEWE project. We shall then be able to compare both countries in relation to the relative share of each type of transitions *(See appendix 1 for more details)*.

We shall proceed step-by-step. Firstly, we shall describe the transition process of these youngsters during the initial period of labour market integration for both countries. Several types of transitions will be developed and we will use them to point out commonalties and differences between the two countries. Secondly, we shall focus on the outcomes of the transition process and especially those amongst school-leavers who are non employed five years after leaving: who are these youngsters without any income? In which way was their entry into working life different from those who experienced a "successful" trajectory? [1]
We shall then ask the same questions regarding the young people who were employed at the time of survey, but whose earnings don't allow them to be financially self-sufficient: do their initial characteristics (educational background, social origin, gender, etc.) differ consistently from independent young people? Are we able to characterise the transition process leading to this outcome? Minimum wage regulations and the extensive youth employment policies in France produce a different context from the Irish one. This probably generates contrasting ways of reaching financial independence. In particular, as a result of minimum wages laws in France, most of the new entrants who haven't reached financial independence after five years on the labour market are part-time workers. This question will be introduced by examining employment at the time of the survey.

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[1] One important issue is to separate short and long-term joblessness. A similar percentage of joblessness among the cohort of those who left secondary school five years earlier does not have the same meaning, but depends on the duration of the current spell. Very short spells of unemployment or inactivity may be the sign of matching processes in an active labour market. On the contrary, long-term joblessness even at an intermediate rate is a strong sign of employment problems. Due to the size of the Irish sample, we can not take the duration of unemployment spells into account in our models for Ireland. (See *Grelet, Mansuy, Thomas, 2000b* for a French model of the scale of exclusion from the labour market).

1. Transition processes in France and Ireland.

1.1. Institutional Contexts and school leavers' profiles

Education[2]

General level of education

In both countries, the compulsory minimum age for leaving school is 16. Third level participation rates have recently seen dramatic rise. Consequently, the share of third level leavers among labour market entrants is one of the highest in Europe (38% of LM entrants in France and 37% in Ireland, against an EU average of 26%, according to 1997 ECLFS estimates)[3].

Vocational Education and Training.

Vocational Education and Training is present in both countries and there are tendencies towards expansion. But its prominence is much greater in France: at ISCED level 3, 39.1% of French trainees attend vocational schools and 13.2% attend alternative training. The corresponding figures are 17.6% and 7.1% respectively in Ireland, where general education is more widespread.

We can note that Irish vocational education and training is less concentrated on ISCED level 3 than in the French case.[4] Apprenticeships are more developed in France.

Standardisation

Both French and Irish systems are highly standardised.

Differentiation

Lower secondary education is undifferentiated in both countries.

Upper secondary level is moderately (general tracks) to highly (vocational tracks) differentiated in France. There is strong differentiation according to the track (academic, technical, vocational) and also the main subject studied (among vocational courses, electronics is the most prestigious and valued in the labour market, administrative work is the least valued). There is also differentiation according to the place of training (vocational school trainees have a higher general level, but apprentices find a job faster). Horizontal differentiation is less pronounced in Ireland.

Vertical differentiation is high in Ireland, but the hierarchy is not a simple one: it depends on the stage and the level achieved, and also on grades. In France, the level effect is high, but there is also a strong differentiation according to the main subject.

The 'generation 92' survey shows that the subject effect may even override the level effect. An individual with a CAP or a BEP in manufacturing does better in the labour market than someone with a Bac in the services sector.

Flexibility

Changing tracks within the system is possible in France and seems to be more limited in Ireland.

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[2] See Catewe working papers, volume I 'A Conceptual Framework' and vol II 'Country Reports', ESRI, August 1999.

[3] See 'Key Data on Training' - vol on Transition, EU, forthcoming, Spring 2001.

[4] See 'Key Data on Training' - vol on Transition, EU, forthcoming, Spring 2001.

Labour Market Entry

Unemployment

Unemployment risk for new entrants is more limited in Ireland. In both countries unemployment risk for new entrants falls sharply with increasing levels of education. The unemployment rate for ISCED 0-2 new entrants is twice that of ISCED 3 entrants. This means that the lower level leavers are a group at risk on the labour market, in both countries.

In both countries, unemployed new entrants have a greater chance of leaving unemployment within a year than their seniors do.[5]

State policy

Youth integration schemes are widespread in France, aiming to avoid labour market exclusion, and to enhance skills. They are less developed in Ireland, where public policy is more oriented towards older long-term unemployed.[6]

State regulation in the French labour market is higher than in the Irish case, where there is a minimum wage. However, schemes often introduce wage flexibility for those who hire young people *(see appendix 1 for more details)*.

Characteristics of secondary level leavers (longitudinal comparative database – see tables of appendix 2)

Both samples were selected in a similar fashion. School leavers, with at most an upper secondary level of education are studied. The samples were selected to be representative of these school leavers[7]. The results obtained reveal different national education and training systems, as well as social demographic differences.

Nearly equally divided between males and females

The two samples are about the same in terms of the gender distribution, near equality with only a few more males: 51– 49 per cent for Ireland, 54 – 46 per cent for France. The higher percentage of females for France corresponds to their slightly higher enrolment in tertiary education.

Parents' level of education: similar results

For fathers, the proportion with third level education is similar for both countries. But Irish fathers are less qualified (85 per cent under second level compared with 65 per cent in France). Mothers' education is similar in both countries and their level of education is below that of fathers'. The difference between fathers and mothers is greater in France.

Irish youngsters come from larger families

Ireland has the highest fertility rate in the EU: 1.94 in 1998, relative to an EU average of 1.45. France comes second, but a large step behind, with 1.77. Our sample reflects then a more general reality: Irish families are larger than in France. Many more families have fewer than 3 children in France, than in Ireland. Conversely, we have much larger families in Ireland.

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[5] See 'Key Data on Training', forthcoming spring 2001.

[6] See Catewe working papers, volume II 'Country reports', ESRI, August 1999.

[7] In 1997, the share of second level leavers among labour market entrants was comparable in both countries (62% in France, 63% in Ireland –see 'Key Data on Training–), but the two countries may differ as regards the proportion of these leavers who drop out at third level (excluded from the sample). The French sample is representative of the second level school leavers who didn't attempt to go on to tertiary education, that is of 57% of all LM entrants.

The average number of siblings is 2.4 in France, and 3.8 in Ireland (the median is 2 in France – 3 in Ireland).

Ethnicity: the vast majority of these youngsters were born in the country where they live
96 per cent of the French sample was born in France and 94per cent of the Irish sample was born in Ireland (in the latter case, some of those born out of Ireland may be children of immigrants returning in Ireland).

Age: French leavers are often older
Irish school leavers are younger: their average age is 17.8 years while it is 19.2 in France.
This wide difference is due to three factors. Firstly, repeating classes is most unusual in Ireland, and fairly common in France. Secondly, it is easier to change tracks or subjects in France, but doing so means taking longer to complete. Thirdly, vocational tracks, common in France, are of longer duration than academic ones. The average age at sitting a vocational Bac without repeating is 19 compared to 18 for a general Bac; vocational trainees often take supplementary modules after their main diploma to become more specialised.
So, much of the following information concerning individuals is linked to these variables.
Higher proportions of Irish are still living with their parents. Only one out of three Irish has left the parental home whereas more than 55 per cent have done so in France.
The difference in their marital situation is even larger: only 5 per cent are living in a couple situation in Ireland, whereas the figure is 47 per cent in France. This also shows a country difference. Examining this by gender, there are no males living with their partner in Ireland, but the difference between the two countries is higher for females (23 per cent greater in France).

More children for French leavers
We can also note that 20 per cent of the French have a child, while in Ireland only 15 per cent have a child. This result is related to the younger age of the latter, as the fertility rate is notably higher in Ireland.

Level of education shows national differences
Less qualified youngsters[8] are more prominent in Ireland at the time of leaving school, 10 per cent have no qualification compared to 6 per cent in France. In contrast 19 per cent of French leavers versus 5 per cent of Irish leave having "failed lower secondary level", while a higher proportion of Irish leave at "passed lower second level". (In "failed lower secondary level", some French youngsters left at an "upper secondary level" but did not sit the BEPC).
For both countries, more than half of the youngsters left with "passed upper second level".
We can also note that the Irish leavers often obtain diplomas after leaving school.

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[8] Although the Casmin scale is more relevant to the French case, we used the VTLMT scale which is more adapted to the Irish case. Hence, we need to read the French results carefully as regards level of education. The main problem with using the VTLMT measure for France is that it is based on BEPC, which is considered an equivalent of the Junior Certificate but which is not compulsory in France and therefore does not play the same role.

1.2. Labour force history and types of pathways in France

1.2.1. Cohort flow

As can be seen in Figure 1, almost three out of four leavers were employed[9] in April 1997 (see also Table 1 below). This proportion was under 50 percent in October 1992, as the unemployment share was at its highest level, soon compensated by military obligations: a part of these unemployment or inactivity periods are certainly "waiting spells". After two years, the decline in the unemployment rate is rather slow, and its fluctuation is above all marked by the seasonal movement of the labour market. From then on, returns to education or training remain stable until the end (4.7 percent).

This global pattern nevertheless hides important discrepancies between genders, social origins and levels of education.

There is a huge difference between male and female employment (14 percent, see Table 1). Young women are more subject to unemployment risk, or to withdrawal from the labour market, despite higher educational attainment among females (84 per cent of females left at the upper second level, compared to 67 per cent of males). The higher the level of education of youth, the better are their employment prospects. Almost 80 percent of those who passed the upper second level had found a job by April 1997, whereas this percentage barely exceeds 60 per cent among those who left school at the lower second level. As regards access to employment, vocational tracks are more successful than general education: only those who left with a full maturity certification are as likely to be employed in April 1997 as those who left from a vocational track (more than 75 per cent).

Social origin seems to play a more complex role, in the sense that a more favourable position influences both access to employment and returns to education. That is, although the unemployment rate follows the hierarchy of the social ladder, it is no longer true as regards the employment rate: children of better educated fathers are less often found employed than the less educated ones. This is due to the remarkably high proportion of those who were studying or training[10] five years after they left school for the first time (16 per cent versus 2 per cent on average). This non-linear link between social origin and employment rate, which we will keep in mind in the further analyses, is also to be observed with the occupation of the father (and, to a lesser extent, of the mother).

In every crosstabulation involving individual characteristics, the level of labour market withdrawal among young people follows the same trend as the unemployment rate. This is why the following analysis will aggregate inactivity with unemployment, although we keep the distinction between the two statuses in some analyses.

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[9] In this section, employment includes employment schemes with or without training, as well as apprenticeships.

[10] In the French survey, it is difficult to make a clear distinction between return to the educational system (including apprenticeships), and other training periods.

Figure 1: Flow of the French cohort between January 1992 and April 1997

Comment: The monthly calendar begins in January 1992 (1^{st} month), although most of the youngsters left in June 1992. The calendar ends in April 1997

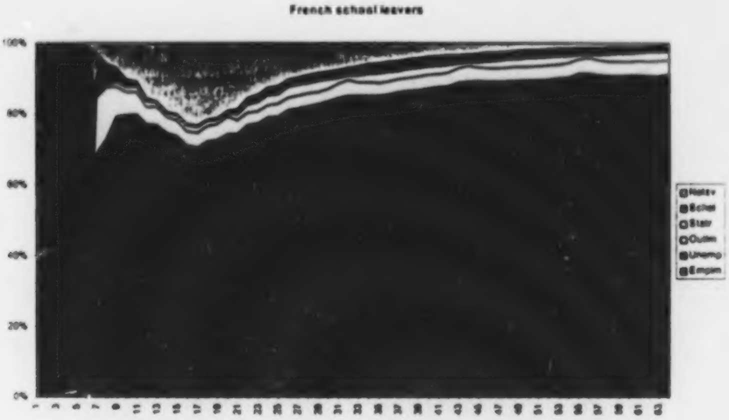

Table 1: Individual characteristics and situation in April 1997 (France)

Initial Characteristics French sample	Principal activity - April 1997						
	Employed	Unemployed	Training	Education	National Service	Out of labour force	ALL
All	73.6	16.7	2.6	2.1	0.8	4.2	100.0
Gender							
Male	79.8	13.1	2.6	1.9	1.5	1.1	100.0
Female	66.1	21.0	2.6	2.3		7.9	100.0
Initial education Highest qual							
No qualif	44.7	38.6	5.4	1.9	1.4	8.1	100.0
Failed lower 2d level	62.7	25.6	3.0	1.9	1.3	5.5	100.0
Passed lower 2d level	61.0	20.4	4.6	3.5	1.1	9.4	100.0
Failed upper 2d level	72.8	15.2	3.2	3.7	0.8	4.4	100.0
Passed upper 2d level	80.3	12.2	2.0	1.8	0.6	3.1	100.0
Level of Education CASMIN Scale							
1ab-Compulsory	53.9	32.4	4.4	1.5	1.3	6.4	100.0
1c-Basic voc	77.7	15.6	1.6	0.7	0.9	3.5	100.0
2a-Adv voc	76.9	15.3	2.4	1.3	0.8	3.4	100.0
2b-Acad 2nd interm	61.3	22.2	3.4	3.2	1.5	8.5	100.0
2c-Full maturity	79.4	11.5	2.3	3.1	0.4	3.3	100.0
Fathers education							
< upper 2nd	72.7	17.9	2.5	1.8	0.6	4.5	100.0
Upper 2nd	76.7	14.4	2.3	2.0	1.1	3.5	100.0
3rd level	67.6	14.7	5.7	6.1	0.8	5.1	100.0

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1.2.2. Types of pathways

A hierarchical classification of French leavers, constructed on the basis of individual labour force histories[11], leads to division into nine distinct clusters, according to the pattern of the pathways, and the global vicinity to the labour market: labour force exclusion through inactivity or unemployment, precarious trajectories with unemployment spells cut by short jobs, delayed employment, and successful trajectories with immediate access to lasting jobs *(see graphs appendix 3).*

Cluster 1: Inactivity (596 people, 3.6 per cent of the French sample)
Females make up a large majority of this group (80 per cent, versus 46 per cent on average). These youngsters who spent more than 73 per cent of their time out of the labour market are younger and less educated than average (52 per cent are under 19 compared to 33 per cent overall). For some of them, a period of inactivity is just a waiting spell before their first step into the labour market. But for the majority of these youngsters, the transition process is reduced to a very short experience in the labour market, from which they exit very soon, if they ever tried to enter. These are more likely to live in a couple, and to have left the parental home.

Cluster 2: Withdrawal from the labour market (452 people, 5.1 per cent of the French sample)
Eight out of ten youngsters in this group are females. They have in common withdrawal from the labour market after (or even for) a while. They spent 27 per cent of their time out of the labour market, maybe discouraged by difficulties in finding a job (nevertheless, they spent almost half of the time employed, mostly at the beginning of the transition process). Note that the share of unemployment is rather high in this group, where youngsters are less educated, and come from a low social class. More than 70 per cent of them are married (compared to 47 per cent on average).

Cluster 3: Return to education (833 people, 5.1 per cent of the French sample)
These youngsters spent 44 per cent of their time in education: they returned to school after having stayed a year or more on the labour market (condition to be included in the sample as a school-leaver). They have a higher level of education and also a higher social origin. They are more likely to be single and still living with their parents.

Cluster 4: National service just after school (2,414 people, 14.8 per cent of the French sample)
This group includes exclusively males and are older than average (see appendix 1 for details about *French Military service)*. Because they reached the enrolment age, or for other reasons, they do their military duty a short time after leaving school. They are better educated (in relation to age of leaving) and are more likely to be of French origin. They found a job fairly quickly at the end of their military period. Almost all of them are employed in April 1997.

Cluster 5: National service after a while (987 people, 6 per cent of the French sample)
The share of unemployment, before and after national service, is a bit higher in this group compared to the preceding: these males spent 19 per cent of the time[12] unemployed, but

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[11] Labour force histories are registered as the combination of six different monthly situations (employment, unemployment, state training, education, national service – concerning French males, inactivity –out of the labour force), over a 55-month period (from October 1992 to April 1997).

[12] Proportion of time is computed on the basis of 55 months, time spent in military service deducted.

nevertheless employment is the major activity (79 per cent of the time). They are younger than in the preceding group, and less educated.

Cluster 6: National service after two years (781 people, 4.8 per cent of the French sample)
Outside of military service, these young males spent 75 per cent of the time employed. 45 per cent of them left school under the age of nineteen (compared to 33 per cent on average), at a rather low level. Due to their age, they mostly live with their parents at the time of survey.

Cluster 7: Alternating employment, unemployment and state training (2,077 people, 12.7 per cent of the French sample)
Females are slightly over represented in this group of youngsters, who experienced the most unstable pathways, with more than five different situations within the period of 55 months (compared to less than 3 on average). Seasonal effects are very important in this group, with employment rates rising every summer. Nevertheless, these young people managed to spend half their time on the job, alternating with spells of unemployment or training[13] (either at the beginning or at the end of the observed process). The rate of employment tends to grow as time goes on. This group of young is relatively young, less educated and unmarried.

This cluster can been split into two groups, which are differentiated according to the timing of state training.
The first group (1230 people), where state training – and, to a lesser extent, national service – occurs at the beginning of the transition process, is marked by dramatic employment growth (from 30 per cent in October 1992 to 70 per cent in April 1997): jobs progressively take over from training and military service – the level of unemployment remaining nevertheless at a rather high level during the whole period.
In the second group (847 people), training spells occur during the last two years: almost 40 per cent of youngsters are on state training in April 1997. The employment rate remains low throughout the period (around 40 per cent).

Cluster 8: Between employment and unemployment (3,068 people, 18.8 per cent of the French sample)
The high rate of unemployment is not compensated by state training in this group, where youngsters shared their time between employment and unemployment. Women are over represented in this group (65 per cent compared to 46 per cent on average). They left school with a low level of education. This large cluster can be split into three groups:

- In the first group (1,446 people), the unemployment rate stays at the same high level (around 65 percent) during the whole period.
- In the second group (1,188 youngsters), it drops from 60 to 30 percent, as employment rates go up.
- In the third group (434 people), the number of unemployed is limited to 20 percent at the end of the process, and the beginning of the process is marked by a high percentage of youngsters who postpone their entry on the labour market.

Cluster 9: Durably employed (5,135 people, 31.4 per cent of the French sample)
In this very large group, youngsters have been employed more than 92 per cent of the time. Males are over represented in this group (62 per cent compared to 46 per cent on average).

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[13] In the French survey, it is not always easy to make the distinction between long post-education training spells, and return to education.

They are slightly older and better educated. The proportion of youngsters who left the parental home and live with partners is higher in this group.

1.3. Labour force history and types of pathways – Ireland

1.3.1. Cohort flow

Almost four out of five Irish youngsters were on the job in April 1997: this is a marked growth compared with the level in July 1992 (66 per cent). In contrast the unemployment rate only decreased from 14.3 percent to 11.2 percent (see Figure 2 and Table 2 below). In the meantime, the share of state training declined dramatically, while those who returned to education only decreased from 6 to 4 per cent. The proportion who withdrew or remained out of the labour market is stable during the whole period (around 4 per cent).

There are again considerable differences depending on individual characteristics.

Although there is no visible gender effect on the employment or unemployment rate, transition processes are gendered: females are much more likely to be absent from the labour market. Furthermore, state training seem to be more common among females, as more males return to education: this may be related to the difference in educational attainment, which is higher among female school leavers (72 per cent of females have left at the upper second level, compared to only 54 per cent of males).

The higher the level of education, the higher the employment rate: only 57 per cent of those having left without any qualifications are employed at the time of survey, while this proportion grows to 86 per cent for those who passed the upper second level.

Like in the French case, social origin influences both access to employment and returning to education: the likelihood of joblessness is higher at the bottom of the social ladder, as those with a better social origin are more inclined to return to education.

Figure 2: Flow of the Irish cohort between January 1992 and April 1997

Comment: The monthly calendar begins in January 1992 (1st month). The calendar ends in April 1997

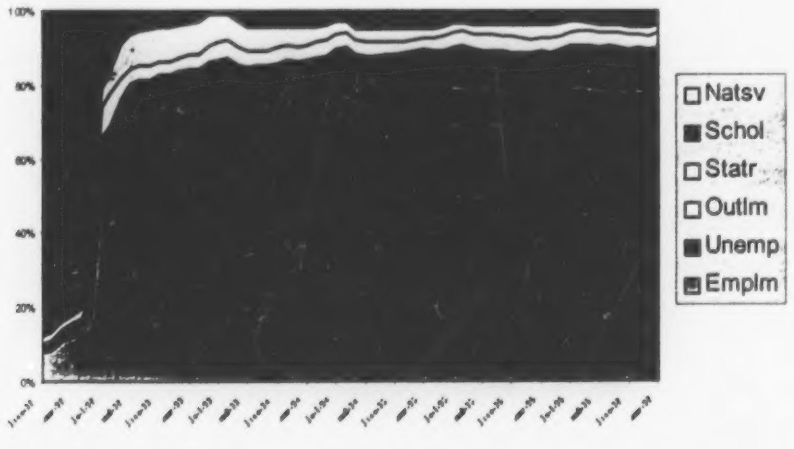

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Table 2: Individual characteristics and situation in April 1997 (Ireland)

Initial Characteristics Irish sample	Principal activity - April 1997					
	Employed	Unemployed	State training	Education	Out of labour force	ALL
All	79.3	11.4	1.7	4.5	3.2	100.0
Gender						
Male	81.6	11.0	0.9	5.6	0.9	100.0
Female	76.9	11.8	2.5	3.3	5.6	100.0
Initial ed. Highest qualif						
No qualif	55.6	36.6	3.7		4.1	100.0
Failed lower 2d level	73.9	14.9		3.7	7.4	100.0
Passed lower 2d level	75.3	16.5	1.4	2.6	4.1	100.0
Failed upper 2d level	81.4	12.2	..	1.4	5.0	100.0
Passed upper 2d level	85.1	4.6	1.8	6.4	2.1	100.0
Level of Education. CASMIN Scale						
1ab-Compulsory	78.7	18.2	0.8		2.3	100.0
1c-Basic voc	62.7	26.8	1.8	2.8	5.9	100.0
2a-Adv voc	100.0	..	..		..	100.0
2c-Full maturity	85.7	4.2	2.1	5.7	2.4	100.0
3a-lower level tert ed	74.1	9.6		13.2	3.1	100.0
3b-higher level tert ed	24.1		..	48.1	27.8	100.0
Fathers education						
< upper 2nd	79.3	12.6	1.8	3.0	3.4	100.0
Upper 2nd	81.4	4.7	..	11.9	1.9	100.0
3rd level	72.6	6.1	3.3	14.7	3.3	100.0

1.3.2. Types of pathways

A hierarchical classification of Irish leavers, performed on the basis of individual labour force histories, leads to the identification of the same global patterns of trajectories in Ireland as in France, and to a partition into seven disjoint clusters *(see graphs appendix 4).*

Cluster 1: Inactivity (46 people, 5.6 per cent of the Irish sample)
Nine out of ten youngsters in this group are females. They spent on average 58 per cent of the time out of the labour market. The proportion of married people is higher in this group.

Cluster 2: Return to education (30 people, 3.7 per cent of the Irish sample)
In this group, youngsters spent two thirds of the time at school, where they returned after one, two or even three years on the labour market. They are older (73 per cent are over 17, compared to 61 per cent on average), with a higher level of education and social origin. They are more likely to have the left the parental home. One out of two have left their parental home, but their marriage rates are no higher than those for other groups.

Cluster 3: School followed by employment (31 people, 3.8 per cent of the Irish sample)
Females are more likely to belong to this group of youngsters who returned to education for one year (on average) and went back to a job again. They were already better educated — and

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older than others — as they left school for the first time. The number of different periods in the transition process is markedly above the mean (2.5 changes).

Cluster 4: State training followed by employment (76 people, 9.3 per cent of the Irish sample)
The proportion of time spent on the job is much higher in this group than in the previous one (71 per cent). Youngsters in this group benefit from state training (22 per cent of total time) just after leaving school, and before entering a job. They have no distinctive characteristics.

Cluster 5: Employment, state training, unemployment (32 people, 3.9 per cent of the Irish sample)
In this group youngsters share their time equally between employment (44 per cent of the time) and state training (41 per cent), employment being more common at the beginning of the process. School-leavers belonging to this group are younger than average (48 per cent left before the age of eighteen, compared to only 39 per cent on average). The number of changes is highest for this group (almost 3 changes on average). These youngsters have also experienced unemployment: the proportion of time spent out of work reaches 9 per cent.

Cluster 6: Unemployment (95 people, 11.6 per cent of the Irish sample)
The proportion who are unemployed is very high in this group, where people spent more than 70 per cent of the time out of work, with only a slight improvement over time. They are rather young (46 per cent under eighteen), with a lower level of education and a lower social origin.

Cluster 7: Continuous employment (508 people, 62.1 per cent of the Irish sample)
Men are a bit more likely to belong to this group of school-leavers who have been employed throughout the period. Due to its numerical importance, this group is close to the mean, and it is difficult to observe any significantly distinctive characteristics.

1.4. French-Irish comparison of labour force histories

Are there types of transition processes that are specific to one country? To what extend can we say that both countries share the same transition patterns? Comparing the cluster analysis results for both countries will help us to answer these questions.

The role of National service
It is clear that military obligations play an important role in the process for French males'[14], and there is no comparable group in Ireland.

Return to education and training
Although returning to education and training is much less developed in France than in Ireland, this characterises one type of pathway in both countries (in Ireland, there is also a group who return to education within the first year after leaving school, which is not included within the sampling definition of the French survey).
In terms of state training, in France it is often associated with unstable trajectories where unemployment alternates with employment spells, with training either at the beginning or at

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[14] For a clarification of this point, see appendix 1.

the end of the observed process. In Ireland, we find the similar patterns, but the proportion unemployed in such trajectories is much lower.

Continuous employment

The same types of trajectories are found in both countries, where access to employment is fast and durable.

Long-term unemployment

In France as well as in Ireland, some lower level school-leavers experience serious difficulties on the labour market. The difference between the two countries is a higher proportion in such unsuccessful pathways in France. Nevertheless, the gap between employment and unemployment seems to be somewhat more radical in Ireland than in France.

Inactivity

In both countries, there are some youngsters who either delay their entry on the labour market, or withdraw after a while (married females being over represented in the last type). Rates of inactivity are very close in both countries (around 4 percent).

2. Exclusion from the labour force

After this overview of the entire labour force history we will focus on outcomes, that is the position of the cohort in April 1997. Our main goal is to study the most unsuccessful, those who are excluded from the Labour Market.

We will define the idea of exclusion from the labour force using the notion of precariousness, based on the situation at the time of survey.

Youngsters employed at the time of survey will be grouped together, and the groups of "unemployed" and "out of the labour market" will be considered precarious[15]. Our models intend to analyse which individual characteristics explain these precarious situations.

In order to compare both countries, we used the categories set out to create a dummy variable: whether the person was employed at the time of survey or not. In this way, we are modelling the probability of being in a precarious situation.

Sample structure, by country

Situation	Ireland	France	All
Frequencies *Percentages*			
Employed	647 *(79%)*	11,836 *(72%)*	12,483
Precarious (unemployed or out of the labour force)	121 *(15%)*	3,610 *(22%)*	3,731
Others*	49 (6%)	897 (6 %)	946
All	**817 *(100 %)***	**16,343 *(100%)***	**17,161**

* This group will be excluded from further analysis.

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[15] We follow then the remark of Ryan (1999): joblessness (unemployment + inactivity) is more comparable across countries, during the transition process, than just unemployment.

Global comparison

The best approach to compare both countries would be to make the comparison with the same model. But as the sizes of the samples are so different, we construct two different models *(See appendix 5)*. Also, we can note that the country has a significant effect in this model. The probability of being in a precarious situation is higher in France. That gives another general argument but only based on the dichotomy employment/precariousness.

Ireland

The first approach was to use the most complete set of variables describing individual characteristics.

No significant effect of Marital Situation, Place of birth of the youth, Place of residence.
Unlike in Elbaum or Herpin's models, this information is not significant in predicting the probability of being in a precarious situation.

Gender and level of education are significant factors
The gender effect is very strong. In Ireland, males have a higher probability of being employed than females.

No qualification is the only case in which youngsters are more likely to be in a precarious situation
The level of education is significant for Ireland; but educational levels from failed lower secondary level to passed upper secondary level show no significant variation. This is linked to the marked predominance of employed youngsters, and only the lowest level leads to precariousness with a higher unemployment probability.

France

No marital effect
We obtain the same result, in the both complete model for both countries and in the model for France. But the marital situation is very closely linked to gender and to departure from the parental home. This relationship will be studied in a further paragraph.

Level of education
In France, the level of the diploma strongly influences the probability of being employed or out of the labour force. The probability of being in a precarious situation decreases as the level of education gets higher. We can observe a big difference between the no qualifications group and those who failed lower secondary level, and a second gap between passed lower and failed upper secondary level.

Place of birth is significant
Being born in a foreign country leads to a higher probability of precariousness.

Place of residence
French school leavers are more likely to be employed at the time of survey if they reside near Paris. The Paris area has a concentration of the most dynamic activities, so this finding is not unexpected. Herpin, for instance, found a similar effect.

Gender effect significant

We find a strong gender effect in France. Young men experience precariousness less than women do. The probability of being in a precarious situation is 1.75 greater if the youngster is female.

Still in parental home or living alone and precariousness

We do not find the same probability of being in a precarious situation between young people who have left the parental home and those who have not. The probability of experiencing precariousness is higher for single youngsters, but this variable is very closely correlated with gender and marital situation.

Comparative conclusion

More individual characteristics are determinant in France. Screening effects by educational level seem to be stronger in France, and context variables also play a greater role. As we have just seen, fewer variables determine the probability of being in a precarious situation in Ireland. Nevertheless, this may be linked to the sample size.

So these models show that the characteristics included in the Irish model (gender, level of education) are significant for both models.

As a conclusion, we can note that once the difference country differences in rates of employment/unemployment have been studied, the same characteristics explain the probability of precariousness in both countries.

3. Paid employment: characterisation and financial dependence

Having considered the transition process leading to exclusion from the labour force and its determination, we shall now focus on relatively low wages, which can be considered another type of exclusion.

Youth employment schemes and minimum wage regulations shape this category. And a recent French study on low wages (Leminez, 1999) shows that low wage workers are concentrated in certain sub-populations: low-wage workers are 4.5% of the total labour force, but 11% among part-time workers, 7% among women, 12% among those aged under 25 and 11% of unskilled non manual workers. Given this data, we can see that school leavers are a population particularly at risk of being low wage-workers. This is why we focused on financial dependence for labour market entrants.

In this study, we shall consider earned income, not only as financial resources for the youngsters, but also as a cost for the employer. We shall therefore try to enlighten the link between national labour market segmentation and different types of pathways. According to Marsden's (1986) segmentation model, young people who don't earn their living five years after they left school have been confined to a non-qualified and non-organised segment of the labour market. They are not able to capitalise on their labour force experience, but rather experience several precarious spells of employment. We shall try to identify which firms hire these youngsters, and in which kind of jobs, and to show the commonalties and differences between the two countries.

In the following models, we consider the effects of individual characteristics on the level of wages. But we know that, wage level doesn't depend only on individual characteristics of young people. Bayet (1996) suggests several theoretical points of view on wage determination:

- Wages are related to individuals' human capital, measured by diplomas (level, subject) and the nature of previous year experience; education is taken into account in our model and experience is controlled, because we have a cohort of leavers; seniority in the present firm, as a signal of specific human capital accumulated on the job, can also be introduced into the models;
- Wages are related to working conditions (occupation is a determining factor; working at week-ends, at night, in difficult conditions… leads to compensatory premiums);
- Wages are related to company characteristics: size of the local unit, industry, work organisation, human resources policies, bargaining rules and so on affect the level of wages.

Our model applies to monthly wages, regardless of the number of hours worked. A low wage level may be the consequence of a low hourly wage rate, or of a part-time job. As young workers may have chosen part-time jobs, low income is not always the sign of a precarious job. This case is minor in the French context, where companies often use part-time jobs in order to adjust their employment costs. Young women leaving secondary education are very often unwilling part-time workers. This is also the case for young men.

Empirical studies for France (Bayet, 1996) show that for the total labour force, occupation and length of experience are the two main individual factors explaining the level of wages, followed by education and gender. On the firm's side, industry and size of the local unit are highly significant. Of course these factors are not independent.

Other firm effects are noticeable: wage policy and work organisation explain 20% of the wage dispersion. The market share of the firm also has a significant effect.

In this step, we focus on those who were employed in April 1997, and had declared their earnings. We again split this sub-sample into categories, depending on the level of their wages, compared to thresholds externally based on the wages distribution in the whole active population, in order to be comparative. For France, we used the median wage for the active population in 1997. And we took the Irish value from the SWS- structure of wages survey, carried out by the European Community in 1994. In order to make it comparable we actualised it, so we used £1081 as the median wage.

Dependence for both Countries

The model in this section studies the dependence situation for youngsters employed in April 1997. Analysis is based on levels of earnings, and youngsters are considered in a dependent situation if they earn less than 60% of the median wage (monthly: 5300FF for France and £650 for Ireland): with this definition, 30 per cent of workers are in a dependent situation in both Ireland and France *(see appendix 6)*.

The individual characteristics included are the same as in the exclusion study: level of education, gender, marital status and ethnic origin. We also add characteristics of the job at the time of survey: social class, experience on the labour market (measured by proportion of time spent in employment); and characteristics of the firm: size and industry type. We were unable to directly integrate working conditions, as in Rosen's formulation, but some of their effects are contained in the social class and firm description variables.

We use a logistic model to estimate the probability of being in a dependent situation. We had to divide the sample and make a model by country, but the same method is used for both countries. At first, we include the complete set of variables, and in a second step, include only the significant effects.

Results for Ireland

Limited significant effects for individual characteristics
The levels of education of the parents are not significant; and the individual characteristics such as place of birth, marital situation, having left the parental home or not, do not influence the probability of being dependent either.
The industrial segment is not significant, such as most of the job characteristics (social class, occupational segment).

This leads to the second model, in which only significant effects are kept.

Number of worked hours (full/part time) determines the level of earnings
Unsurprisingly, this characteristic has the most important effect when trying to explain the probability of dependence. Having a part-time job increases the probability of being dependent.

Firm characteristics are the most significant
The firm size is very significant: the probability of being dependent is significantly lower if the youngster is working in a big firm (500 people or more).

Individual effects

Gender effect
Like for the probability of being in a precarious situation, we note that females are more likely to be dependent (working but with low earnings).

Level of education only as a dummy effect
The level of education influences the probability of being dependent. But merely having the qualification is significant: the probability of being dependent is higher for youngsters without the qualification. There is no significant difference between the other degrees.

This modelling must be interpreted with care: because of the small size of the sample, some effects may not be significant because the youngsters concerned are too few.

Results for France

Social origin and family context are not significant
Fathers' and mothers' level of education are not significant in the probability of being dependent. Place of birth is not significant either. Even for French youngsters, having a child does not significantly alter the probability of being dependent.
As the situation of living together is linked to gender and to departure from parental home, this characteristic does not appear to be significant.

Individual characteristics such as gender and level of education influence the probability of being dependent.
Level of education is also significant: as the level of education increase, the probability of being dependent decreases. There is no significant difference between failed lower secondary and passed lower secondary level.

The probability of being dependent is significantly higher for females. But we can notice that youngsters who have already left the parental home have a lower probability of being dependent.

Firm size is significant
The probability of being dependant is the highest in a small firm (under 10 people), and lowest in big firms (more than 500 people).

Job description
Occupational segment and social class are significant for French youngsters.
Part-time work leads to a much higher probability of being dependent (of course the income of part-timers is lower).

Financial dependence: conclusion
This leads to the same remark as for the first part: the main significant effects are the same in both countries. The French model is however more precise. In both cases, we tried to characterise the financial dependence with individual characteristics only or with job description (firm and working conditions) only. But using the whole set of variables leads to better results, even if we saw the same characteristics significant in the partial models.

Conclusion

Early labour force history analysis shows commonalties between the French and Irish cases: in both countries we find pathways characterised by quick access to stable employment, others dominated by inactivity or unemployment. But we notice differences: the transition process of French young men was affected by compulsory national service, returning to education occurs less in France and unemployment is more frequent than in Ireland. But unemployed young Irish seem to be more often long-term unemployed.
Five years after having left school, the probability of being jobless is significantly higher for young women and the unqualified in both countries. Of those with a job, women and the unqualified are more at risk of being low-wage workers. The French ET system seems to provide stronger market signals, both in terms of access to jobs and in avoiding low wage positions. Family context affects the risk of being jobless in France, but not in Ireland. Being a part-time worker or working in a small firm significantly increases the risk of earning low wages and of being a financially dependent worker in both countries.
Occupational segment and social class are significant determinants of low wages only in France. In the French case we found similar variables to Kaukewitsch and Rouault who used the Structure of Wages Surveys (SWS) for France and Germany.
Does this mean that segmentation is stronger in the latter two countries than in Ireland, or that Irish wages are more loosely linked to educational level or job position, allowing individual factors other than education to play a greater role?

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Appendix 1 : The longitudinal databases

France

The French data are extracted from the "'92 Generation" survey conducted by Céreq to follow 27,000 young people entering the labour market in 1992, regardless of their training level: for the needs of the CATEWE project, it has been reduced to the 16,500 who left school at the secondary level of education. The survey identifies their work situation (job status and wage) in 1997 and analyses their work histories, known through the monthly registration of their situation. Some of these situations are specific to the French institutional context and need some clarification.

The French National Service

In 1997, the national service was compulsory for young men born before 1980. A minority were exempted (27 per cent, according to the 'youth survey' 1992).[16] Family background (supporting younger brothers and sisters, or his own children) or health conditions were the main reasons for exemption. An exemption is given less often to those who have a vocational or technical qualification.

National service in France was mainly military (97 per cent of all cases).

The modal duration was 10 month, but specific forms may last longer: 'long' military service (security, for example). Civil forms are the longest (24 months).

National service is not a total waste of time in a labour market trajectory: it may provide educational resources:

- young men may get a vocational or technical qualification in army schools;
- those who choose national service outside the army are working;
- certain branches of the army train for highly skilled jobs during national service: the air force, marines, and health service for example;
- The army may teach people how to manage a team, for those who become officers or non commissioned officers.

Other usable skills may be acquired during the national service: a driver's license/a lorry driver license may be very useful in finding a job and 33 per cent pass one or the other during their military service.

Military service is not a second chance for a smoother transition for the lower level school-leavers. But, the longitudinal surveys of Cereq show that military service may be a way to acquire work experience for those who have a first-level vocational qualification: this was the case for 20 per cent of young men having left vocational secondary education.

Globally, educational resources in national service are more often offered to those who are most educated.

If we compare the job situation before and after national service, it was the same for 50 per cent. The situation improves for 40 per cent. For 10 per cent, the situation is worse after national service.

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[16] See N. Herpin and M. Mansuy, ' Le rôle du service national dans l'insertion des jeunes', Economie et Statistique n°283-284,1995.

The two main forms of supported youth employment: 'Contrat de Qualification' and 'Contrat Emploi Solidarité.

A **'Contrat de Qualification'** –CQ– is a fixed term employment contract (6 to 24 months). Created in 1984, it concerns young people (16 to 25 years old) leaving school without a qualification, or with one inappropriate to finding a job.

According to the contract, vocational training is offered for 25 per cent of the time, and ordinary work for 75 per cent. The corresponding minimum salary varies from 30 per cent to 75 per cent of the minimum wage, according to age and seniority. But in certain activities, young people hired under CQ may have higher wages. About 30 per cent of them stay on in the same firm when their CQ ends.

After her or his training period, the young person sits a vocational exam. According to the follow-up surveys[17], 62 per cent of the young people earn a vocational diploma or a vocational title. They acquire a qualification recognised by employers, or adapt the one they had before to the needs of the firm. One can find four training strategies offered by employers, from the most intensive investment in training to the lowest[18]. The first one consists in building new competencies to use afterwards. In the second one, the firm, often a small firm, uses costly competencies during the training process but doesn't hire the young trainee when her or his qualification is achieved. In a third model, the young person learns skills by experience, and the training period is a theoretical complement, but work experience is the decisive element. In a fourth model, CQ is used as cheap labour, and the connection between the training period and work experience within CQ is loose.

CQ is close to apprenticeships, but people entering CQ are more qualified: in 1997, 43 per cent of CQ entrants have a diploma lower than " baccalauréat " (A-levels), 37 per cent have a bac and 20 per cent have tertiary education. And even if only 30 per cent of them stay in the same firm when their CQ ends, most of them find a job.

Their situation on the labour market after the program is close to the situation of young people having had an apprenticeship or an ordinary job. It is very different from the situation after a **'Contrat Emploi Solidarité'** – CES – which is a public sector contract without training: after a CES, the unemployment risk is notably higher. These contracts are targeted at young people who experience difficulties in finding a job, and long-time job seekers. They aim to encourage the participation of young people in community life through the accomplishment of a useful activity, and permitting access to work experience. They are half-time limited-term contracts (for 3 to 12 months, 24 months for the most disadvantaged publics and, exceptionally, 36 months), paid at the minimum hourly wage, without any variation according to age or skills. Employers can be regional or local communities, non-profit organisations, public institutions, social security bodies, work councils or housing project administrators.

Ireland

The Irish data draws on a national survey of those who left school in the academic year 1991/2 but did not immediately enter third-level education. This group were first interviewed in May/June 1993 and re-interviewed in late 1998. The follow-up survey collected detailed information on the employment, unemployment, education and training histories of respondents along with information on experiences of migration and household formation.

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[17] See C Charpail, S. Zilberman, septembre 1998,"Diplôme et insertion professionnelle après un contrat de qualification", Premières Synthèses Dares n°39.3.

[18] See M.C. Combes, septembre 2000,"La mise en œuvre de la formation au sein du contrat de qualification", Premières Synthèses Dares n°38.1.

Appendix 2: Characteristics of secondary level leavers

	Ireland		France	
	Freq	%col	Freq	%col
Gender				
Male	439.	53.7.	9209.	56.3.
Female	379.	46.3.	7134.	43.7.
ALL	818.	100.0.	16343.	100.0.
Father's education				
Unknown	55.	6.7.	2556.	15.6.
< upper 2nd	641.	78.4.	8912.	54.5.
Upper 2nd	93.	11.4.	4196.	25.7.
3rd level	29.	3.5.	679.	4.2.
ALL	818.	100.0.	16343.	100.0.
Mother's education				
Unknown	52.	6.4.	2215.	13.6.
< upper 2nd	619.	75.7.	10614.	64.9.
Upper 2nd	124.	15.2.	3080.	18.8.
3rd level	23.	2.8.	434.	2.7.
ALL	818.	100.0.	16343.	100.0.
Number of siblings				
Unknown	21.	2.6.	109.	0.7.
0	15.	1.8.	1206.	7.4.
1	79.	9.7.	4886.	29.9.
2	147.	18.0.	4743.	29.0.
3	175.	21.4.	2372.	14.5.
>=4	381.	46.6.	3027.	18.5.
ALL	818.	100.0.	16343.	100.0.

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	Ireland		France	
	Freq	%col	Freq	%col
Young born in Ire/Fr?				
Unknown	53.	6.5.	2.	0.0.
No	45.	5.5.	568.	3.5.
Yes	720.	88.0.	15773.	96.5.
ALL	818.	100.0.	16343.	100.0.
Living in IDF/Dub ?				
No	649.	79.3.	14804.	90.6.
Yes	169.	20.7.	1539.	9.4.
ALL	818.	100.0.	16343.	100.0.
Age in 1992				
Unknown			32.	0.2.
<=16	107.	13.1.	431.	2.6.
17	199.	24.3.	764.	4.7.
18	318.	38.9.	3433.	21.0.
19	145.	17.7.	4494.	27.5.
20	30.	3.7.	3854.	23.6.
21	16.	2.0.	2205.	13.5.
>=22	3.	0.4.	1130.	6.9.
ALL	818.	100.0.	16343.	100.0.
Whether living with parents				
Unknown	169.	20.7.	77.	0.5.
No	444.	54.3.	6858.	42.0.
Yes	205.	25.1.	9408.	57.6.
ALL	818.	100.0.	16343.	100.0.

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	Ireland		France	
	Freq	%col	Freq	%col
Marital status at time of survey				
Unknown	35.	4.3.	92.	0.6.
No	743.	90.8.	8350.	51.1.
Yes	40.	4.9.	7901.	48.3.
ALL	818.	100.0.	16343.	100.0.
Initial education: Highest qual				
Unknown	19.	2.3.		
No qualif	62.	7.6.	481.	2.9.
Failed lower 2d level	36.	4.4.	2916.	17.8.
Passed lower 2d level	167.	20.4.	509.	3.1.
Failed upper 2d level	70.	8.6.	1539.	9.4.
Passed upper 2d level	464.	56.7.	10898.	66.7.
ALL	818.	100.0.	16343.	100.0.
Level of Education (CASMIN scale)				
Unknown	14.	1.7.	5.	0.0.
1ab-Compulsory	141.	17.2.	1218.	7.5.
1c-Basic voc	147.	18.0.	2123.	13.0.
2a-Adv voc	8.	1.0.	6790.	41.5.
2b-Acad 2nd interm			1170.	7.2.
2c-Full maturity	475.	58.1.	5037.	30.8.
3a-lower level tert ed	29.	3.5.		
3b-higher level tert ed	4.	0.5.		
ALL	818.	100.0.	16343.	100.0.

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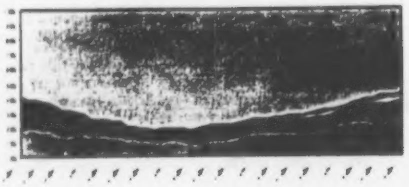
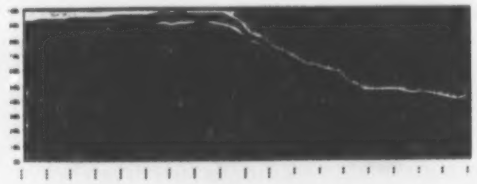
Appendix 3: French Clusters

French LFH, Cluster 1: Inactivity



French LFH, Cluster 2: Withdrawal from the Labour Market



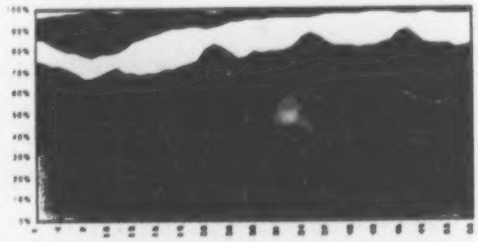
French LFH, Cluster 3: Return to Education

French LFH, Cluster 4: National Service after School

French LFH, Cluster 5: National Service after a while

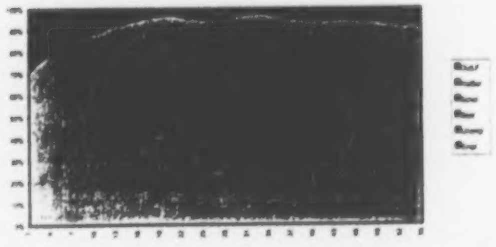
French LFH, Cluster 6: National Service after two years

French LFH, Cluster 7: Alternating Employment, Unemployment, State Training



French LFH, Cluster 8: Between Employment and Unemployment

French LFH, Cluster 9: Durably Employed



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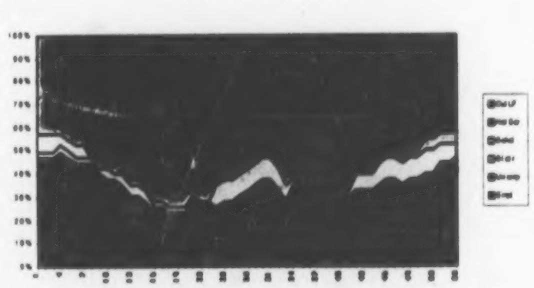
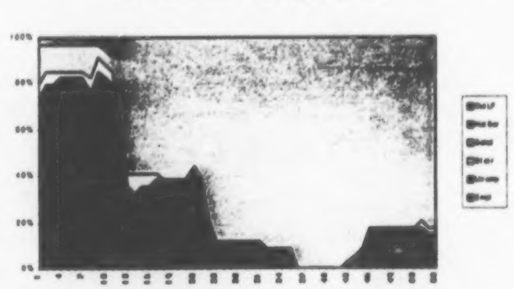
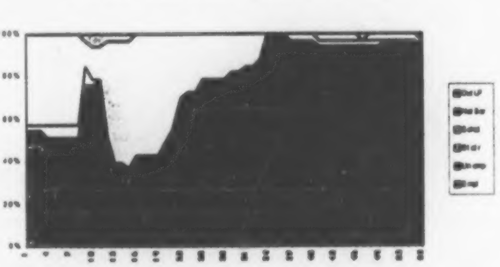
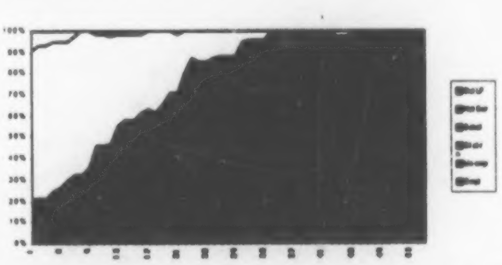
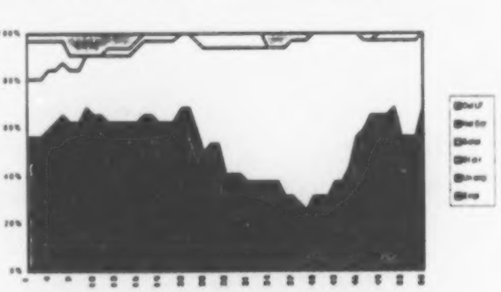
Appendix 4: Irish Clusters

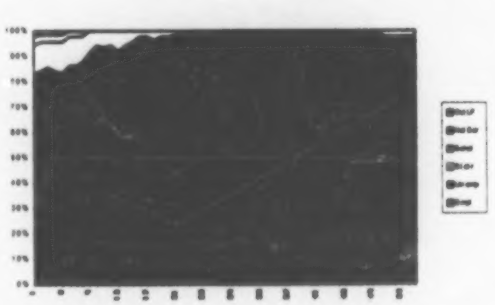

Irish LFH, Cluster 1: Inactivity

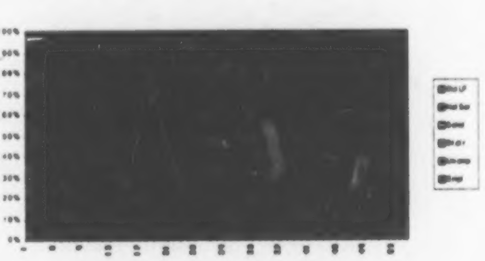

Irish LFH, Cluster 2: Return to Education


Irish LFH, Cluster 3: Scool Followed by Employment


Irish LFH, Cluster 4: State Training Followed by Employment


Irish LFH, Cluster 5, Employment, State training, Unemployment


Irish LFH, Cluster 6: Unemployment


Irish LFH, Cluster 7: Continuous Employment

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Appendix 5: Exclusion from the labour Force, models

Complete dataset

```
Response: CAT2                            Response Levels (R)=     2
Weight Variable: EUWGT                    Populations      (S)=   114
Data Set: CATEGOR2                        Total Frequency (N)= 16026
Frequency Missing: 188.5527               Observations  (Obs)= 16144

MAXIMUM-LIKELIHOOD ANALYSIS-OF-VARIANCE TABLE
Source                    DF   Chi-Square      Prob
----------------------------------------------------
INTERCEPT                  1       228.73    0.0000
LAND                       1        39.36    0.0000
SEX                        1       669.72    0.0000
INITEDH                    4       878.60    0.0000
MARITAL                    1        32.05    0.0000
LOCJ                       1        29.64    0.0000
RES                        1        28.25    0.0000
        LIKELIHOOD RATIO         104        455.57    0.0000


             ANALYSIS OF MAXIMUM-LIKELIHOOD ESTIMATES
                                         Standard    Chi-
Effect            Parameter  Estimate     Error     Square   Prob
------------------------------------------------------------------
 INTERCEPT                1   -1.0995    0.0727    228.73  0.0000
 LAND                     2   -0.3611    0.0576     39.36  0.0000
 SEX                      3   -0.5454    0.0211    669.72  0.0000
 INITEDH                  4    0.8773    0.0580    228.99  0.0000
                          5    0.2503    0.0409     37.39  0.0000
                          6    0.1717    0.0699      6.04  0.0140
                          7    0.4561    0.0553     68.04  0.0000
 MARITAL                  8    0.1190    0.0210     32.05  0.0000
 LOCJ                     9    0.2466    0.0453     29.64  0.0000
 RES                     10    0.1591    0.0299     28.25  0.0000
```

France

```
Response: CAT2                            Response Levels (R)=     2
Weight Variable: EUWGT                    Populations      (S)=   132
Data Set: CATEGOR2                        Total Frequency (N)= 15344
Frequency Missing: 101.7857               Observations  (Obs)= 15461

      MAXIMUM-LIKELIHOOD ANALYSIS-OF-VARIANCE TABLE
Source                    DF   Chi-Square      Prob
----------------------------------------------------
INTERCEPT                  1       185.49    0.0000
SEX                        1       673.81    0.0000
INITEDH                    4       793.65    0.0000
MARITAL                    1         0.54    0.4625
LOCJ                       1        32.05    0.0000
RES                        1        29.84    0.0000
LEFTHOME                   1        27.31    0.0000
LIKELIHOOD RATIO         122       525.75    0.0000

ANALYSIS OF MAXIMUM-LIKELIHOOD ESTIMATES
                                         Standard    Chi-
Effect            Parameter  Estimate     Error     Square   Prob
------------------------------------------------------------------
INTERCEPT                 1   -0.7233    0.0531    185.49  0.0000
SEX                       2   -0.5632    0.0217    673.81  0.0000
INITEDH                   3    0.8411    0.0602    194.97  0.0000
                          4    0.2551    0.0416     37.53  0.0000
                          5    0.1698    0.0750      5.12  0.0236
                          6   -0.4499    0.0565     63.30  0.0000
MARITAL                   7    0.0212    0.0289      0.54  0.4625
LOCJ                      8    0.2619    0.0463     32.05  0.0000
RES                       9    0.1678    0.0307     29.84  0.0000
LEFTHOME                 10    0.1532    0.0293     27.31  0.0000
```

Ireland

```
Response: CAT2                            Response Levels (R)=     2
Weight Variable: EUWGT                    Populations      (S)=    60
Data Set: CATEGOR2                        Total Frequency (N)=541.34
Frequency Missing: 227.023                Observations  (Obs)=   532

MAXIMUM-LIKELIHOOD ANALYSIS-OF-VARIANCE TABLE
Source                    DF   Chi-Square      Prob
----------------------------------------------------
INTERCEPT                  1        14.14    0.0002
SEX                        1        11.30    0.0008
INITEDH                    4        41.24    0.0000
MARITAL                    1         0.20    0.6550
LOCJ                       1         0.90    0.3431
RES                        1         1.17    0.2794
LEFTHOME                   1         6.67    0.0098
LIKELIHOOD RATIO          50        51.01    0.4336

         ANALYSIS OF MAXIMUM-LIKELIHOOD ESTIMATES
                                         Standard    Chi-
Effect            Parameter  Estimate     Error     Square   Prob
------------------------------------------------------------------
INTERCEPT                 1   -1.5075    0.4009     14.14  0.0002
SEX                       2   -0.4796    0.1427     11.30  0.0008
INITEDH                   3    1.1265    0.2947     14.61  0.0001
                          4   -0.0307    0.4087      0.01  0.9402
                          5    0.0130    0.2367      0.00  0.9562
                          6    0.2344    0.3514      0.44  0.5047
MARITAL                   7   -0.1125    0.2517      0.20  0.6550
LOCJ                      8   -0.3216    0.3392      0.90  0.3431
RES                       9    0.1756    0.1623      1.17  0.2794
LEFTHOME                 10   -0.3741    0.1448      6.67  0.0098
```

Ireland - Model 2

```
      MAXIMUM-LIKELIHOOD ANALYSIS-OF-VARIANCE TABLE
Source                    DF   Chi-Square      Prob
----------------------------------------------------
INTERCEPT                  1        67.06    0.0000
SEX                        1        10.47    0.0012
INITEDH                    4        53.46    0.0000
LEFTHOME                   1         7.00    0.0081
  LIKELIHOOD RATIO          13        15.14    0.2990


    ANALYSIS OF MAXIMUM-LIKELIHOOD ESTIMATES
                                         Standard    Chi-
Effect            Parameter  Estimate     Error     Square   Prob
------------------------------------------------------------------
INTERCEPT                 1   -1.2313    0.1504     67.06  0.0000
SEX                       2   -0.4297    0.1328     10.47  0.0012
INITEDH                   3    1.3052    0.2716     23.09  0.0000
                          4   -0.0980    0.3959      0.06  0.8045
                          5    0.0516    0.2216      0.05  0.8159
                          6    0.1318    0.3262      0.16  0.6861
LEFTHOME                  7   -0.3355    0.1268      7.00  0.0081
```

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Appendix 6: Financial Dependence, models (Youngsters on job in April 97)

Complete dataset

```
Data Set  WORK MOD02
  Response Variable  DEP
  Response Levels  2
  Number of Observations  9894
  Weight Variable  EUWGT
  Sum of Weights  9507 5651879
  Link Function  Logit

           Response Profile
  Ordered                        Total
  Value    DEP    Count        Weight
  1        1       2963     2948 9444
  2        0       6931     6558 6208
WARNING  2551 observation(s) were deleted due to missing values for the response or
explanatory variables


  Model Fitting Information and Testing Global Null Hypothesis BETA=0
                Intercept
  Intercept       and
  Criterion      Only        Covariates    Chi-Square for Covariates
  AIC          11776 838      7642 666
  SC           11784 037      7808 259
  -2 LOG L     11774 838      7596 666     4178 171 with 22 DF (p=0 0001)
  Score                                     3996 226 with 22 DF (p=0 0001)

                              Analysis of Maximum Likelihood Estimates
                  Parameter  Standard     Wald        Pr >     Standardized      Odds  Variable
  Variable  DF    Estimate     Error   Chi-Square  Chi-Square    Estimate       Ratio    Label
  INTERCPT   1     0 6373     0 2162      8 6927     0 0032                             Inter
  SEX        1     0 9824     0 0657    223 6371     0 0001      0 262497      2 671  Gender
  EDFATH1    1    -0 0129     0 0993      0 0169     0 8966     -0 003464      0 987
  EDFATH2    1    -0 0417     0 1051      0 1573     0 6917     -0 009905      0 959
  EDMOTH1    1    -0 1069     0 1043      1 0506     0 3054     -0 027532      0 899
  EDMOTH2    1    -0 1406     0 1150      1 4961     0 2213     -0 030335      0 869
  LEFTHOME   1    -0 3252     0 0837     15 1023     0 0001     -0 086272      0 722
  MARITAL    1    -0 0338     0 0840      0 1622     0 6872     -0 009140      0 967
  LOCJ       1     0 2525     0 1640      2 3885     0 1222      0 024368      1 288
  INIT1      1     1 1307     0 1485     58 0043     0 0001      0 111075      3 098
  INIT2      1     0 6183     0 0823     56 4746     0 0001      0 119076      1 856
  INIT3      1     0 5702     0 1495     14 5507     0 0001      0 058440      1 769
  INIT4      1     0 1966     0 0975      4 0666     0 0437      0 032426      1 217
  CHILDREN   1    -0 0806     0 0848      0 9026     0 3421     -0 016786      0 923
  SCLAS1     1    -0 4065     0 1390      8 5456     0 0035     -0 069453      0 666
  SCLAS7     1    -0 4410     0 0878     25 1984     0 0001     -0 098403      0 643
  OCC1       1    -0 3958     0 1562      6 4178     0 0113     -0 064404      0 673
  OCC2       1    -0 3987     0 1049     14 4403     0 0001     -0 077151      0 671
  OCC3       1    -0 2564     0 0687     13 9364     0 0002     -0 066202      0 774
  FIRM1      1     1 2193     0 1034    139 0583     0 0001      0 297184      3 385
  FIRM2      1     0 6055     0 0949     40 7073     0 0001      0 162926      1 832
  CORE       1    -0 2436     0 0626     15 1358     0 0001     -0 065801      0 784
  FTIME      1    -3 0679     0 0739   1722 6822     0 0001     -0 681844      0 047

                 Association of Predicted Probabilities and Observed Responses
                        Concordant = 86 1%          Somers' D = 0 724
                        Discordant = 13 7%          Gamma     = 0 726
                        Tied       =  0 2%          Tau-a     = 0 304
                        (20536653 pairs)            c         = 0 862
```

Ireland

```
Response Variable  DEP
Response Levels  2
Number of Observations  323
Weight Variable  EUWGT
Sum of Weights  313 92007942
Link Function  Logit

                   Response Profile
             Ordered                          Total
Value     DEP     Count          Weight
1         1         99         95 96939
2         0        224        217 95069

Model Fitting Information and Testing Global Null Hypothesis BETA=0
                            Intercept
               Intercept       and
Criterion        Only      Covariates    Chi-Square for Covariates
AIC             388 516      359 197
SC              392 293      381 863
-2 LOG L        386 516      347 197       39 318 with 5 DF (p=0 0001)
Score                                      38 484 with 5 DF (p=0 0001)

                     Analysis of Maximum Likelihood Estimates
               Parameter  Standard    Wald       Pr >     Standardized     Odds  Variable
Variable  DF   Estimate    Error   Chi-Square Chi-Square    Estimate      Ratio    Label
INTERCPT  1     -1 0241    0 6598     2 4094     0 1206                           Inter
SEX       1      1 0265    0 2722    14 2179     0 0002     0 279401      2 791  Gender
INIT1     1      1 5242    0 5812     6 8768     0 0087     0 172739      4 591
FIRM1     1      1 3151    0 4034    10 6293     0 0011     0 318452      3 725
FIRM2     1      1 0257    0 3744     7 5074     0 0061     0 279161      2 789
FTIME     1     -1 4197    0 5810     5 9715     0 0145    -0 172169      0 242

                Linear Hypotheses Testing
                      Wald                      Pr >
      Label        Chi-Square         DF     Chi-Square
   Firm1 = Firm2     0 9449           1        0 3310
```

France

```
Response Variable  DEP
Response Levels  2
Number of Observations  9677
Weight Variable  EUWGT
Sum of Weights  9291 4392682
Link Function  Logit

       Response Profile
Ordered                          Total
Value      DEP      Count        Weight
1          1         2895     2882 1229
2          0         6782     6409 3164

Model Fitting Information and Testing Global Null Hypothesis BETA=0
                          Intercept
             Intercept       and
Criterion       Only      Covariates    Chi-Square for Covariates
AIC          11509 514     7366 229
SC           11516 692     7481 569
-2 LOG L     11507 514     7334 229     4173 285 with 15 DF (p=0 0001)
Score                                   3987 295 with 15 DF (p=0 0001)

                             Analysis of Maximum Likelihood Estimates
                Parameter  Standard    Wald       Pr >     Standardized     Odds   Variable
Variable  DF    Estimate    Error   Chi-Square Chi-Square    Estimate      Ratio    Label
INTERCPT  1      0 8046    0 1794     38 6517     0 0001                            Inter
SEX       1      0 9750    0 0667    213 6354     0 0001     0 260286      2 651   Gender
LEFTHOME  1     -0 3594    0 0630     32 5477     0 0001    -0 096094      0 698
INIT1     1      1 0833    0 1502     52 0047     0 0001     0 135946      2 954
INIT2     1      0 6321    0 0824     58 9086     0 0001     0 122631      1 881
INIT3     1      0 6639    0 1633     16 5359     0 0001     0 063720      1 942
INIT4     1      0 2020    0 0990      4 1645     0 0413     0 033366      1 224
SCLAS1    1     -0 4460    0 1421      9 8520     0 0017    -0 076053      0 640
SCLAS7    1     -0 4616    0 0895     26 5832     0 0001    -0 182769      0 630
OCC1      1     -0 4100    0 1597      6 5879     0 0103    -0 066575      0 664
OCC2      1     -0 4056    0 1062     14 5793     0 0001    -0 078538      0 667
OCC3      1     -0 2539    0 0698     13 2407     0 0003    -0 065576      0 776
FIRM1     1      1 2006    0 1057    129 0092     0 0001     0 292808      3 322
FIRM2     1      0 5766    0 0971     35 3018     0 0001     0 155068      1 780
CORE      1     -0 2609    0 0639     16 6901     0 0001    -0 073427      0 770
FTIME     1     -3 0985    0 0745   1728 5440     0 0001    -0 692527      0 045

             Linear Hypotheses Testing
                 Wald                         Pr >
  Label        Chi-Square            DF     Chi-Square
     init4=0       4 1645             1        0 0413
init2=init3        0 0336             1        0 8546
init2=init3=init4 14 7236             2        0 0006
sclas1=sclas7      0 0096             1        0 9218
occ1=occ2          0 0006             1        0 9805
occ1=occ2=occ3     2 6061             2        0 2717
firm1=firm2       83 7930             1        0 0001
```

January 2001

Prepared as part of the TSER project:
Comparative Analysis of Transitions from Education to Work in Europe

WORKING PAPERS

A ROUTE TO SKILLS
A Comparative Analysis of the Position of Apprenticeship in Transition Systems in France, Ireland, the Netherlands and Scotland

Jannes Hartkamp

Hans Rutjes

DESAN
Amsterdam
The Netherlands
E-mail: jannes.hartkamp@desan.nl

1. Introduction

Not fully integrated into the labour market and no longer within education, apprenticeships might easily fall into an area avoided in studies of education systems on one side and labour market research on the other. However, continuing to learn and commencing work, apprentices in fact deserve special attention in the study of transitions from school to work. For many young people this intermediate period is central to their transition. And, although apprenticeship is an ancient, even pre-historic form of training, it is by no means out-dated.

In discussions on present-day issues of bridging learning to work experience, of linking education systems and rapidly changing labour markets, apprenticeship programmes cannot be overlooked. The crucial and relatively recent view of learning as a lifelong process leads to a specific interest in apprenticeships, as in principle there is no reason why apprenticeship programmes should only be targeted at young people on the fringe of secondary education or be largely confined to certain skilled manual occupations, as they often have been. The specific combination of learning and working may be relevant to other sectors, occupations and age groups as well. Paradoxically, although in some cases apprenticeship schemes are embraced by pupils as a welcome opportunity to leave the classroom as soon as possible, they could be developed into one of the pillars of life-long learning.

Judgements on the relative merits of apprenticeship programmes much depend on the alternative they are compared to (school-based education, employment, unemployment or labour market programmes), on the criteria used (e.g. earnings, job-search period, number and length of employment and unemployment spells; occupational stability or mobility), and on the time-point of evaluation (e.g. one or five years after completion). Moreover, observed and unobserved selection bias remains hard to deal with, and comparison of apprenticeship to full-time vocational education is especially difficult because they are rarely actual alternatives in a given national context leading to identical or comparable sectors and occupations. And comparing ex-apprentices in one country to former full-time students in another leaves too many other things unequal.

While the overall outcomes of national evaluations and micro-data analyses of the relative merits of apprenticeship programmes (for an overview see Ryan, 1998) have thus not been unambiguous, cross-national comparisons of macro-indicators have turned out favourably for countries with extensive apprenticeship systems. An OECD report (1996), for example, found that youth unemployment rates in countries with dual systems of vocational training were on average four percentage points lower than in countries with classroom-based vocational education. It is perhaps such findings, more than micro-level research, that seemed to justify the conclusion that the 'German-speaking dual system' may be the best way to optimise education-labour market matching and tackle youth unemployment, and has led to rather general policy-recommendations to promote apprenticeship (e.g. EC, 1997; EC, 1996; OECD, 1994: part 3b).

The enthusiasm for 'the German system' as the best solution in a certain part of the transition system seems to have faded somewhat recently, at least among scholars (see e.g. Bonnan, Mendes & Sofer, 1999; Durand-Drouhin, McKenzie & Sweet, 1998; Groot & Plug, 1998). On a practical level this may be related to general problems appearing in the German economy in the 1990s, and to doubts about how well the apprenticeship system is functioning in a *Wirtschaft* which is not performing so exemplarily *wunderbar* anymore. The relationship between youth unemployment and the quantitative size of the apprenticeship system (number of apprenticeship places at firms) may partly work in a direction that has often been overlooked: in a booming economy with labour-market shortages, employers may simply have more incentives and means to provide apprenticeship places than during recessions.[1] On a more theoretical level, the recognition – enhanced by comparative micro-level analyses in projects like CATEWE and renewed attention for the 'institutional embeddedness' (Müller & Shavit, 1998) of transition processes – has grown that the structure of educational systems and labour markets, and thus transition systems, varies so significantly across countries that national conclusions and 'best solutions' are not easily transferable from one system to another. What works very well in one country does not necessarily do so in others. This does not mean that cross-national comparisons are not interesting for scientists and useful for policy-makers, on the contrary. It does mean, however, that one should be very careful with general recommendations.

---

[1] See e.g. Groot en Plug (1998). Although Steedman (1993) regards the German apprenticeship system as a good remedy against youth unemployment, she also observes the presence of pro-cyclical fluctuations in the number of apprenticeship places provided by firms.

The recognition that an apprenticeship-system 'à la Germany' is not a generally applicable magical key to smooth transitions from vocational education and training to work may provide the freedom to compare different apprenticeship systems to each other as well as to their alternatives, to treat apprenticeship as one of several ways to combine learning and working[2], and to regard it as one possible element in life-long learning strategies. 'Soft' comparative studies of the position and role of apprenticeship programmes in their national contexts looking for 'good ideas' may prove fruitful alongside 'hard' econometric evaluations in search of 'best solutions'.

Subject

This paper will outline general cross-national differences and similarities in the position of apprenticeship programmes within the respective transition systems of France, Ireland, the Netherlands and Scotland, and compare basic characteristics of apprentices, using the 'current' CATEWE SLS database which integrates several recent national school-leaver surveys (see *data and methods* below).

The starting point of this study (and of a future, more elaborate, analysis that will study changes over time) is that the national ET and transition systems in the countries under study all somehow succeed in 'producing' manageable levels of knowledge and competencies required for specific occupations. However, the systems vary in the way they prepare young people for entry to these occupations: through apprenticeships, school-based vocational tracks, youth programmes, work schemes, on-the-job training or any combination of these.

We will analyse how the educational systems differ in the solutions they offer to certain equivalent labour-market demands, and in the role apprenticeship programmes play in 'producing' the knowledge, skills and competencies required for access to certain specific occupations: in which sectors and countries is apprenticeship the 'high-way' to certain skills, where is it one of the possible routes, where is it non-existent or negligible, and which tracks other than apprenticeship lead to similar destinations, in the same transition system or elsewhere?

---

[2] Welters and Wolbers (1999), for instance, distinguish double statuses of 'dual-system students', 'working students' and 'studying workers'.

'Is apprenticeship better?' (Ryan, 1998) is a question we will not ask here. Leaving aside the general problems in evaluating the relative merits of apprenticeship programmes, the apprentices in the dataset we used were still apprentices at the time they were surveyed, so it is impossible to answer the question as it is usually understood: which alternative is most successful in producing certain skills and abilities, operationalised as degree of subsequent 'employment success' in a longer or shorter period following the alternatives under evaluation. Not dealing with labour-market outcomes or the level or quality of skills acquired, the modest aim of this paper is to give a general overview of apprenticeship programmes and a basic quantitative description of apprentices in four European countries that have apprenticeship programmes, but not as extensive and significant as the 'German speaking' systems.

Research questions

'What is currently the relative importance, role and position of apprenticeships within the transition systems of France, Ireland, the Netherlands and Scotland?' We will attempt to provide an answer to this general question by giving a description of apprenticeship programmes and apprentices along the following criteria:

- general characteristics of apprenticeship programmes in terms of entry requirements, duration, examination and types of occupation for which they are trained;
- overall size of apprenticeship programmes in terms of percentage of school-leavers in apprenticeships 1 – 1.5 years after leaving secondary school;
- relative importance of apprenticeships as a route to specific occupations, in terms of the representation of apprentices among all school-leavers in a certain occupation;
- basic characteristics of apprentices and school-leavers in other 'statuses' in terms of their gender, age, level and type of education and earnings.

Data and methods

The data used in this study derive from the 'current' comparative school leavers' surveys (SLS) database that has been constructed as part of the CATEWE project and integrates the 1997 surveys of 1995-1996 school-leavers from Ireland and the Netherlands, the 1995 survey of 1993-1994 leavers in Scotland, and the 1996 survey of 1993-1994 leavers in France. The database has been constructed on the basis of known sample/population definitions and a common set of definitions of over 120 variables to capture commonalties and national peculiarities of transition pathways. Included are in principle all 'second level system leavers', i.e. those who left full-time secondary education and did not return to full-time education at second level within six months.

The most important differences in sample/populations definitions are the following: the *French* survey is in fact a 'labour-market entrants survey' and excludes leavers who continued in full-time education (at second or third level) without a break, as well as leavers from General Baccalauréat and agricultural courses. The survey was conducted in April-June 1996, but the 'destination data' refer to November 1995, about 1.5 years after leaving second level education. The *Irish* and *Dutch* samples refer to all young people who left full-time second-level education in 1995-1996, surveyed in autumn 1997, 15-18 months later. The *Scottish* leavers in the database left 'general' secondary school in 1993-1994 and were surveyed in Spring 1995, thus usually about 10 months after leaving. The Scottish sample does not include leavers from courses in Colleges of Further Education, which may be at second level. All FE courses count as destinations. The level of FE courses is not specified in the data, but Iannelli and Raffe (2000) estimate the proportion of school-leavers in the Scottish sample that subsequently enrolled in second-level FE courses at 12-13 per cent. (See CATEWE (2000) for a more detailed description of the surveys and the integrated data.)

The database includes a fifth country that will not be dealt with here: Sweden. The fact that Sweden had no apprentices would in itself not be a reason for exclusion, on the contrary: it would be interesting to study what routes lead to occupations for which other countries have apprenticeship programmes. However, for one of the possible alternatives, 'Youth programmes, Training and Employment schemes' (containing 12 per cent of the Swedish sample), there is no information for Sweden on social class (EGP) and occupation (ISCO). Moreover, because school-leavers were surveyed four years after they left compulsory education, the Swedish data differ in that lower-level leavers were surveyed much longer after leaving school than upper-secondary leavers. This may give incomparable results in studying routes to certain occupations.

Apprenticeship is indeed "notoriously difficult to define consistently across time and place" (Ryan, 1998: 289). In this paper, apprentices are defined as those who are classified as 'apprentices' on the variable 'principal activity at the time of the survey'. We thus follow the national terminology of the countries under study: programmes categorised as apprenticeships in their respective countries are regarded as apprenticeships here. Classification of education and training programmes according to a standardised definition of apprenticeship would require more detailed information on the content of the programmes and other combinations of learning and working than is available in the database. Moreover, if such a new 'objective' classification would not match the national nomenclature, the drawbacks of causing confusion would probably outweigh the advantages of standardisation.

It should be stressed that in the data apprenticeship programmes are included as a 'destination' of secondary school-leavers, like 'working for payment or profit', 'unemployed' or 'student' (in general full-time third-level), not as a type of education left. In itself this seems to be more consistent with the position of apprenticeship programmes in the Irish and Scottish transition systems than with the French and especially the Dutch systems, where apprenticeship partly or mainly features as a distinct type of vocational upper secondary education. The French data also identify, in a separate variable, apprenticeship programmes as a type of secondary education left, for those students who became apprentices immediately after completing lower secondary education. These 'apprenticeship leavers' form 13.9 per cent of the French sample. One fifth of the French 'post-secondary' or 'destination' apprentices had left a 'secondary apprenticeship' earlier. For reasons of cross-national comparability, but also because there is no information on occupational class and sector for the 'secondary apprentices' in France, only the 'post-secondary' French apprenticeships, those included as a 'destination', will be dealt with here.

In the following sections we will give a general description of apprenticeship programmes in France, Ireland, the Netherlands and Scotland, followed by an overview of the type of occupations in which school-leavers in apprenticeships can be found: for which jobs are apprenticeships the normal route in some countries, a possible route in others and no route at all in other countries? (Unfortunately we cannot compare apprentices with 'normal workers' or school-leavers in Youth Programmes, training and employment schemes in terms of grades, since we have no information on grades for France, and we only have this information for leavers from academic tracks in the Netherlands. Moreover, the information on grades available is difficult to compare cross-nationally. Another interesting point in comparing 'different routes to skills', the extent to which non-apprentices in occupations receive job-related or workplace training, similarly can not be analysed: the information is not available for France, and the content of the variable varies substantially for the other countries.) Consequently we will compare apprentices - cross-nationally as well as with other categories of school-leavers in the same country - on 'individual characteristics': gender, type and level of education, age, and earnings. Finally specific occupational categories will be analysed separately, comparing apprentices to 'others' in the same or similar jobs.

First, however, we will briefly contemplate the relationship between apprenticeship programmes and other parts of the education and training system. After all, the position and role of one element of a transition system can hardly be understood or analysed fruitfully without taking the overall structure and characteristics of other elements into account.

2. The relationship between apprenticeship and other parts of the ET system framework

In the emerging theoretical framework for cross-national comparisons of education and transition systems in Europe, three 'meta-variables' have gained a central position in the comparative classification of upper-secondary education: standardisation, differentiation and school-to-work linkages or labour-market linkage (see e.g. Hannan, 1999a; Hannan, Raffe and Smyth, 1997; Müller and Shavit, 1998).

Standardisation refers to the degree to which curricula and certification are standardised nationally. As standardisation is generally high in all European educational systems – with some exceptions and ambiguity concerning the UK - this characteristic is often left aside, as it will be here. *Differentiation* denotes the existence of and separation between different tracks in secondary education, and the degree to which the education and training system "'ranks or 'sorts' individuals" (Hannan, 1999a: 14). The main form of differentiation is the distinction between general/academic and vocational education, but differentiation may also apply to separate tracks within vocational education. In the latter case differentiation usually correlates with the 'occupational specificity' of vocational education and training (see

Müller and Shavit, 1998): strong differentiation between academic and vocational tracks is usually accompanied by strong differentiation within vocational secondary education, although in principle the 'granularity' of the latter may vary even across systems with the same degree of differentiation between academic and vocational tracks. Although the emphasis often lies on the 'horizontal axis', i.e. differentiation between tracks in content and subject, 'vertical ranking and sorting' (sometimes denoted by 'stratification') in terms of levels and hierarchies is also included in the concept[3] (see Hannan, 1999a). The hierarchical subdivision of general secondary education into MAVO, HAVO and VWO in the Dutch system is a strong example of early and formal vertical differentiation within a system that is highly differentiated horizontally too. *School-to-work* or *labour-market linkage*, finally, refers to the extent to which employers are involved in the education and training system, and includes the role and organisation of work-based provision.

In general, secondary education in Ireland can be classified as having low or moderate track differentiation and weak linkages to the labour market; in the Netherlands as highly differentiated with strong school-to-work linkages; in Scotland as moderate on both points; and in France as moderately/highly differentiated and lowly/moderately 'linked' (Hannan, 1999a. See also Hannan, Raffe and Smyth, 1997; Müller and Shavit, 1998; Schröder, 2000; Iannelli and Raffe, 2000). While academic and vocational secondary education are clearly separated in both France and the Netherlands, differentiation can be regarded as stronger in the Netherlands. This is partly because track differentiation starts at upper-secondary in France while in the Netherlands the 'lowest stratum' of lower-secondary is split into VBO (vocational) and MAVO (academic)[4]. In addition to this, the different vocational tracks in the Netherlands are more skill- and occupationally specific than in France.

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[3] Hannan, Raffe & Smyth (1997: 430-431), for example, write: "In countries with undifferentiated ET systems, employers tend to pay more attention to the 'level' of education achieved. Where the system is also standardised in terms of curriculum and certification, employers tend to use examination performance (grades) as a criterion for recruitment (see Breen *et al.*, 1995)." While differentiation between academic and vocational tracks is often vertical as well as horizontal, 'occupational specificity' of vocational education may decrease vertical differentiation between academic and vocational tracks. Vocational tracks may then be viewed as different, rather than 'lower' (see e.g. Müller & Shavit, 1998). Iannelli and Raffe (2000) make a similar point in relation to 'education logic' versus 'employment logic' in upper-secondary education.

As Hannan (1999: 14-15) points out, Allmendinger's (1989) concept of stratification seems too imprecise "to assess the way in which the education/training system 'ranks' or 'sorts' individuals at the end of each stage." Its usability may also vary widely between (parts of) educational systems. 'Outcome differentiation' (Hannan, 1999: 15), however, may overlook vertical differentiation before the end of the stage. Müller & Shavit (1998) seem to use stratification for both horizontal and vertical differentiation. Vertical differentiation thus still appears to deserve cross-national conceptual elaboration.

[4] This horizontal differentiation at lower secondary is now being decreased, as VBO and MAVO merge into VMBO.

The relationship between secondary education and apprenticeships - or the role and position of apprenticeships within the transition system - depends on where apprenticeship itself is placed theoretically: inside or outside vocational upper-secondary. The CATEWE SLS database includes apprenticeship as a destination and the structure of the data thus induces a view of apprenticeships as post-secondary education and training programmes. This definition, however, seems more accurate for Scotland, and most notably, Ireland than for the Netherlands and France. (In some cases the overall classification of an education and training system on the differentiation and labour-market linkage dimensions might change depending on whether apprenticeship programmes are included as a part of the system or not.)

Leaving this general problem of inclusion or exclusion of apprenticeships in typifications of secondary education aside, what is of specific interest for the position of apprenticeship programmes within the transition system is the degree of (horizontal) *differentiation* and the *school-to-work* or *labour-market linkage* in 'school-based' upper-secondary education. Where there are highly differentiated vocational tracks with strong linkages to the labour market for a broad variety of sectors and occupations, like for instance MBO in the Netherlands (whose curricula include periods of work placement), there is less 'space' and need for apprenticeships to produce occupational skills. To a lesser extent this is also true for France, where school-based upper-secondary is quite differentiated, but not strongly linked to the labour market. Where school-based secondary education is not very occupationally-specific and weakly linked to the labour market, as in Scotland, there should be a specific function and need for apprenticeships (and other 'post-school' training schemes). Although in Ireland secondary education has become more 'track-differentiated' than in Scotland (the recent introduction of the Leaving Certificate Applied Programmes and Vocational Programme (LCAP and LCVP) and Post-Leaving Certificate vocational courses (VPT) further contribute to this), it is much less so than in the Netherlands and France and not strongly linked to the labour market.

As Müller and Shavit (1998: 5) remark, in strongly differentiated systems like Germany or the Netherlands "a large number of occupational specialisations are taught in specific school tracks. In such systems, the occupations specialised for would not just be carpenter, but cabinet maker or construction carpenter..." In countries where school-based secondary education is more general, as in Scotland and

Ireland, most students follow mostly 'academic' courses, and vocational subjects or modules are less specific: in such systems cabinet makers and construction carpenters have to obtain their specific skills in another way, on the job, in apprenticeships or in training programmes. (Concerning school-leavers in 'normal jobs', outside apprenticeships and training programmes, we would indeed, like Müller and Shavit (ibid.), expect fewer school-leavers in unskilled occupations in systems where school-based vocational education is more skill-specific than in less differentiated systems.)

Thus, would we expect more apprentices in Scotland and Ireland than in the Netherlands and France? Perhaps not so much as the previous line of reasoning would suggest. Firstly, if we view apprenticeships – very differentiated and very 'linked' – as part of the secondary education system, the same historical origins and processes, logic, mechanisms or school-to-work institutional linkages that lead to differentiated school-based vocational education may also lead to more extensive apprenticeship programmes. Apprenticeships and occupationally specific school-based vocational tracks may then not only be functional alternatives but also branches from the same root, elements of one structure of vocational education and training. Secondly, in the Netherlands and France apprenticeship forms an alternative to full-time vocational education comparatively early in school careers, before the age limit of (partial) compulsory education, and may therefore attract students who do not have the desire or ability to remain in the classroom. Apprenticeship may thus be a popular exit route from school.

Concerning the relative position of school-based vocational education and apprenticeships, in education systems where the former is rather skill-specific as well, one may find a difference in status similar to the one often observed between academic and vocational tracks in undifferentiated systems: "[V]ocational education is less prestigious than academic education. The more successful students tend to attend the academic programmes, whereas the less successful turn to vocational education. Thus, having attended a vocational programme of education constitutes a signal that the job applicant is neither bright nor disciplined" Müller & Shavit (op. cit.: 6). Apprenticeship may then be less prestigious than school-based vocational education, and the horizontal differentiation between academic and vocational education may be accompanied by vertical differentiation between full-time vocational education and apprenticeship. On the other hand, the perceived difference between apprentices and full-time vocational students may also simply be that some

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young people learn better at school, some others in a job. Or even that apprentices have proven their abilities, discipline and suitability for the labour market by finding and keeping their apprenticeship place. Unfortunately the relative status of apprentices and full-time vocational students is hard to identify from the data we use, and for France and the Netherlands we lack information on school-performance for the earlier point in time at which some students entered school-based vocational education, others apprenticeships. Moreover, we should stress once again that for France we analyse the 'post-leaving' apprenticeships only.

3. Apprenticeships in France, Ireland, the Netherlands and Scotland: a general overview

General characteristics of apprenticeship programmes[5]

In all four countries apprenticeships last typically around 3 years (4 in Ireland) and, if completed, lead to nationally recognised and regulated certification after examination. The duration of the apprenticeship is not fixed in terms of years, but depends on the skills acquired. Apprentices usually receive a fee or a small wage, directly or indirectly subsidised by the state, but employers are free to pay more than the minimum.

In *Ireland* the apprenticeship system is nationally regulated by the State Training and Employment Agency (FÁS), which in some cases may also provide training places if none are available at firms. Traditionally craft apprenticeship has been of the time-served type, without mandatory attainment of predetermined standards, but since 1995 (following agreement between the social partners and the government on the Programme for Economic and Social Progress in 1991) a new 'Standards-Based Apprenticeship' system has been introduced, making the National Craft Certificate a requirement for recognition as a craftsworker. The number of apprentices, which reached lows in the mid-1980s and mid-1990s, has increased considerably since 1995. The new Apprenticeship Rules established in 1997 specify minimum entry requirements and regulate training, assessment and attendance of off-the-job training. The minimum age is 16 and there is no formal upper age limit. Aspiring apprentices have to find an employer to offer them an apprenticeship in their chosen trade and can be assisted by employment offices. The Irish apprenticeship system has recently become 'post-upper-secondary' in practice rather than 'post-lower-secondary', partly because of the selectivity of employers, who may require minimum Leaving Certificate qualifications (grade D in five subjects in the Junior Certificate examination is the official entry minimum). Theoretical instruction is based in either FÁS training centres, colleges of education or, for some 'sophisticated' subjects like electronics, Institutes of Technology. Costs concerning on-the-job training, including wages, are funded by the employer, costs related to off-the-job training (usually in 3 phases together not exceeding 40 weeks), including the training

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allowance, are met from state funding, with employer contributions through the Apprenticeship Training Levy. 'Modular assessment' (off-the-job) and 'competence assessment' (on-the-job) form the basis of the certification. Apprenticeship programmes only extend to certain industrial and occupational sectors (personal and protective services; extraction and building; metal and machinery; and wood treating and cabinet making are the main sectors), predominantly training skilled manual workers. Apprenticeships in the hotel, catering and tourism industry (under the responsibility of the State Tourism Training Agency CERT) and agricultural apprenticeships (administered by the Farm Apprenticeship Board) are part of separate schemes, to which different rules and practices apply.

In *the Netherlands* an apprenticeship may be generally regarded as a special type of vocational upper-secondary training, although a lower secondary diploma (MAVO or VBO) is not an entry requirement, except for the highest of three levels of apprenticeship - which accounts for a small proportion of apprentices[6]. The majority are trained at the lowest level ('basic occupations'), while roughly one third are trained at the second level. Apprenticeship has in general a lower status than the highly valued MBO (school-based vocational upper-secondary education) and is partly regarded as a way to keep potential 'drop-outs' inside the educational system. Apprentices have to be a minimum of 16 years, the age limit of full-time compulsory schooling. As a rule, apprentices work four days a week and receive education in school the fifth day. Off-the-job training is funded by the state, employers receive tax subsidies on the wage costs of the apprentices. Together with other forms of vocational education and training like MBO, apprenticeship programmes are now organised within Regional Training Centres (ROC), where apprentices receive their 'classroom schooling'. The government, the institutes of education and the social partners (employer organisations and trade unions) are jointly responsible for the apprenticeship system and negotiate its content and curriculum. The Dutch apprenticeship system is rather extensive in terms of the range of sectors and types of occupations it covers, however its quantitative importance does not compare with, for

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[5] The descriptions are largely based on Hannan et al. (1999b), EURYDICE/CEDEFOP (1995), CEDEFOP (1999), and additional information provided by the CATEWE partners.

[6] Formerly the distinction was between 'primary', 'secondary' and 'tertiary' apprenticeships. Since August 1997 four levels are distinguished (for MBO as well as apprenticeships), the lowest of which (training for 'assisting occupations') did not previously exist. 'Primary' has become level 2, 'secondary' level 3 ('independent occupations'), 'tertiary' level 4 ('middle management') and 5 ('specialist'). However the reforms of which these changes form an element did not yet apply to the leavers in our data.

instance, the German equivalent. The system has changed significantly following the new Education and Vocational Training Act (WEB). From August 1997 students in upper-secondary vocational education and training can choose at different levels between a track in which the emphasis lies on learning at school (the BOL pathway, similar to former MBO) and a track which is primarily based on learning on-the-job (the BBL pathway, closer to the former apprenticeship route LLW). Although the aim of the reforms is to offer both pathways for in principle each subject (occupation), in practice often only one pathway to a certain qualification is offered (SER, 1999).

The situation in *Scotland* underwent important changes with the introduction of 'Modern Apprenticeships' in 1995. The new apprenticeship programme is primarily targeted at 16-year-old school leavers, provides a level of vocational training somewhat higher than the basic Youth Training in the 'Skillseeker' programme, aims at a nationally recognised certificate at level 3 of the Scottish Vocational Qualifications (SVQ), and is organised through Local Enterprise Companies (LEC). Modern apprenticeships are standards-based but usually last around 3 years (i.e. longer than most other Youth Training programmes) and have to be completed before age 25. Apprenticeship programmes are more limited in the range of occupations than the Skillseeker programme as a whole, and largely train for the same jobs as Irish apprenticeships (except wood treaters and cabinet makers), with the addition of clerks. The 'theoretical component' of the apprenticeship programme is provided at FE colleges, firm training centres or group training centres. The responsibilities of apprentice and employer are outlined in national training agreements that set minimum standards for each sector, but the final qualifications are not externally assessed. Entry requirements largely depend on employer selectivity and vary by sector and occupation. The introduction of 'modern apprenticeships' has revived apprenticeship in Scotland, which had been in a long-term decline due to a reduction in the size of 'apprentice-friendly' industries, high levels of unemployment and the growth of alternative training structures such as the Youth Training scheme. 'Traditional apprenticeships' were less regulated and standardised than their modern equivalent, and time-served rather than standards-based. There was no legal requirement for the apprentice to be given vocational education and training leading to a qualification, although most employers would enable their apprentices to follow off-the-job education and pursue a vocational qualification.

In *France* apprenticeship programmes form an upper-secondary track parallel to school-based vocational education and usually lead to a Certificate of Vocational Aptitude (CAP), for which apprenticeships form the main route. However, successive contracts and higher-level apprenticeships give apprentices access to all levels of vocational qualifications, up to an engineer's diploma (levels I and II). Anyone between 16 and 26 years of age can enter an apprenticeship, as well as anyone younger than 16 who has completed lower secondary education. National evaluations have shown that about half of the apprentices had experienced difficulties in school since entering secondary education. The number of apprentices fluctuated somewhat above 200,000 from the 1980s onwards, but has steadily increased since 1993. Less than half of the apprentices enter programmes immediately following lower-secondary school, others enter after a period outside the educational system. In the latter case apprenticeship programmes may be regarded as an alternative to training schemes such as the Qualification Contract. Apprentices have a right to a minimum wage and are subject to the same rules and regulations as other employees. Employers are obliged to enrol their apprentices in a national or regional Apprentice Training Centre (CFA), which provides the off-the-job education. Most CFAs are run by Chambers of Industry and Commerce or Craft Chambers. As a rule one week at a CFA is alternated with two weeks at the enterprise. Since 1993, education, training and research institutions can also offer apprenticeship training, after signing a contract with a CFA or through setting up a special apprenticeship section under contract with the Regional Council. Employers are subsidised through tax and social insurance exemptions or, as of 1996, through a global compensatory bonus, paid in part on signature of the apprenticeship contract, in part at the end of each year. Off-the-job training is state-funded, partly through an apprenticeship tax paid by employers. Apprenticeships do not usually aim at the same occupations as school-based vocational education, although some qualifications can be reached through both routes. Apprenticeships are still predominantly the concern of craft businesses and small enterprises, but they are nevertheless more heterogeneous in terms of occupational sectors than the Irish or Scottish systems.

Given the differences between apprenticeship programmes in the four countries, the percentage of apprentices in our sample - second level education leavers 1 to 1.5 year after leaving school - does not vary as much as one may expect: from 8.2

per cent in Ireland to 14.4 per cent in France (Table 1). The figure for France is not comparable as the French data are taken from a labour market entry survey, not a school-leaver survey, and therefore do not include students who continued their education in third level. If they had been, the percentage of apprentices might well be around 10 per cent for France as well.

Apprenticeship occupations

If one thinks of apprenticeship as one possible route to skills, and of skilled jobs as typical apprenticeship occupations, Ireland comes closest to the ideal type: on the EGP scale of social class position almost nine out of ten Irish apprentices are classified as 'skilled manual workers', against two thirds in Scotland, one third in the Netherlands and only one fifth in France (Table 2). Contrary to other countries, in France apprentices in manual jobs are in principle classified as 'semi- or unskilled workers', regardless of the skill level of the occupation they are being trained for, unless they have already acquired a vocational diploma or certificate. As a result, almost half of the French apprentices in the school-leaver sample are 'semi- or unskilled workers', an EGP class which comprises roughly fifteen per cent of apprentices in Scotland and twenty per cent in the Netherlands, and is almost empty for Ireland. Upper and lower routine non-manual workers (EGP class IIIa and IIIb), finally, make up less than six per cent of all apprentices in Ireland and more than one third in the Netherlands. In general, the distribution of apprentices on the EGP classification is clearest in Ireland and most diffuse in the Netherlands. Because of the different categorisation of 'manual apprentices' mentioned above and a slightly different coding in general in France, but also because the EGP scale gives a rather rough picture of types of occupation, we will turn to the finer ISCO classification now.

If we look at the distribution of apprentices across ISCO categories (Table 3), again the situation is clearest for Ireland and least so for the Netherlands. More than three quarters of Irish apprentices are 'craft and related trades workers', another fifteen per cent 'service workers and market sales workers'. These are the largest categories for the other three countries as well, but in the Netherlands significant numbers of apprentices can also be found in 'technicians and associate professionals' (mostly nurses and midwives), 'elementary occupations' and 'plant and machine operators and assemblers'; in Scotland in 'clerks'; and in France in 'plant and machine operators and assemblers'.

A finer breakdown of occupational position, using 2- and 3-digit ISCO-88 categories, reveals greater differences within the main categories mentioned. For instance, in Ireland and Scotland all 'service workers and market sales workers' (category 5) are 'service workers' (51), in the Netherlands and France many are 'sales workers' (52); one fifth of all Irish apprentices are in a 3-digit category which is empty elsewhere: 'wood treaters and cabinet-makers' (742); the main category 8 holds about the same percentage of apprentices in the Netherlands and France, but in the Netherlands half of these are 'drivers and mobile plant operators', against almost none in France. Thus, not only do the countries under analysis differ significantly in what are typical 'apprenticeship occupations', one also has to be careful in comparing groups of apprentices who are in the same main category (1-digit ISCO groups) across countries: they may well be in rather different occupations.

4. Individual characteristics of apprentices

The proportion of school-leavers in apprenticeships 1 to 1.5 years after leaving the second level system is around 10 per cent in all four countries, but the position of apprenticeship programmes within the transition systems may be said to vary significantly. Roughly schematised, apprenticeships may be placed largely beside post-school education and training in Ireland and beside vocational upper-secondary in the Netherlands. In France both (ideal-type) positions are present, but the data have led us to restrict ourselves to 'post-school' apprentices. In Scotland apprentices are situated next to (predominantly general) upper-secondary students as well as next to 'normal' labour-market entrants and trainees. Regarding the type and array of occupations for which apprentices are educated and trained, Ireland's skilled manual jobs are on one side, while the broad range of sectors and occupations of the Netherlands are on the other side.

Turning from programmes to individuals, we will now discuss the basic characteristics of apprentices (in terms of gender, age, type and level of education and earnings) in Ireland, the Netherlands, Scotland and France, in comparison with school-leavers in other 'statuses', and in a cross-national perspective. In the following section we will then review different routes to similar destinations, by comparing apprentices to others in specific occupational positions.

Gender

Apprentices are predominantly male in the four countries, but some variation does occur: in Ireland only 13 per cent of all apprentices are female, in France and the Netherlands more than one third are female (Table 5). However, if we look at specific occupational sectors, little cross-national variation according to gender is apparent. Of apprentices in 'crafts and related trades' (ISCO 7), by far the largest apprenticeship sector in all countries, 0.6 per cent are female in Ireland, 2.1 per cent in the Netherlands, 2.7 per cent in Scotland and 3.0 per cent in France. In all four countries most female apprentices are to be found among 'service workers and market sales workers' (ISCO 5): 82.1 per cent in Ireland, 42.9 per cent in the Netherlands, 51.3 per cent in Scotland and 74.0 per cent in France. The greater proportion of female apprentices in the Netherlands and France is partly related to the relative size of 'ISCO 5' (see Table 6). In addition, around 70 per cent of apprentices in ISCO 4 ('clerks') in the Netherlands, Scotland and France and almost 90 per cent of apprentices in ISCO 3 ('technicians and associate health professionals') in the Netherlands and France are female, while these 'female apprentice categories' are absent in Ireland.

To illustrate the strong 'gendering' of apprenticeships in the four countries: when we apply a >66 per cent gender criterion[7] (i.e. tracks with more than 66% males are 'male tracks', tracks with more than 66% females 'female tracks', tracks with a more equal gender distribution are 'mixed') and restrict ourselves to 2-digit ISCO occupational categories with at least 3.0% of all apprentices, we find no mixed apprenticeships in any of the countries. When we broaden the limits to 75 per cent, in total 5 mixed 2-digit ISCO categories appear with at least 3.0 per cent of all apprentices in the respective country: 'office clerks' (ISCO 41) in Scotland; 'personal and protective services' (ISCO 51) in Ireland, the Netherlands and France; and 'models, salespersons and demonstrators' (ISCO 52) in the Netherlands. All of these 'mixed' categories are predominantly female. In other words: some of the predominantly female categories are to a certain extent 'mixed', whereas none of the male categories have a substantial number of female apprentices. Apparently female apprenticeships are less female than male apprenticeships are male. Although most are too small for a reliable analysis, the general tendency of strong gendering also holds in the finer grid of 3-digit ISCO occupational categories: none of the 3-digit categories with more than 5 per cent of all apprentices are mixed in any of the four countries.

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[7] The criterion was borrowed from Smyth (2000).

Educational background

In general the educational attainment of apprentices in Ireland, Scotland, the Netherlands and France is lower than that of non-apprentices who left secondary education the same year: the proportion of apprentices who passed upper second-level exams is much lower, the proportion who took no formal exams or failed lower second-level exams higher than of non-apprentices (Table 4, Table 5). However, there are significant differences between the four countries here.

On average the level of education of apprentices in our sample is highest in Ireland (mean 4.03 on a VTLMT scale[8] from 1 'incomplete lower secondary' to 5 'passed upper second-level exam') and lowest in France (3.05; see Table 5). In Ireland more than half of the apprentices passed upper second-level exams, against a quarter in the Netherlands, a third in France and one-sixth in Scotland. Almost half of the French apprentices did not finish lower secondary education. In Scotland and the Netherlands about sixty per cent of apprentices come from the 'passed lower secondary' and 'failed upper secondary' categories (Table 4). The variation in the level of education of apprentices is highest in France and lowest in Scotland. Of course the overall level of French school-leavers in the data is significantly lowered by the exclusion of people continuing their education. To a much smaller degree, the overall Scottish levels are deflated because secondary-level vocational courses at FE colleges count as a destination, as mentioned earlier.

Considerable cross-national differences also appear in the *type* of secondary education (general/academic or vocational) achieved by apprentices: Ireland and France have an almost perfect 50-50 distribution, in the Netherlands apprentices are predominantly from vocational (VBO or uncompleted MBO) secondary tracks, in Scotland four-fifths left a primarily general track (but in Scotland type of education is overwhelmingly academic for all leavers[9]).

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[8] The 'VTLMT scale' of highest educational stage distinguishes five categories based on highest level (lower or upper secondary) and on whether one passed an exam, failed an exam or left before the exam. For example, students who enrolled in upper-secondary education but left school before upper-secondary examination are categorised as 'passed lower secondary'. See Hannan et al. (1998) for the background of the VTLMT classification.

Comparing the scores across 'principal activity' within each country, we find that in the Netherlands and especially France the overall level of educational attainment of apprentices is much lower than that of school-leavers in 'normal' jobs at the time of the survey, and also lower than that of unemployed and people in Youth Programmes, Training and Employment Schemes ('YP/T/ES' in Table 4 and 5). In Scotland and Ireland the difference in the level of education between apprentices and 'workers' is much smaller (in Ireland it is not significant at $p<.05$), and Scottish and Irish apprentices are on average 'more educated' than school leavers who were unemployed or in programmes and schemes at the time of the survey, although the difference is much smaller for Scotland.

In type of secondary education followed there are substantial differences between 'normal workers', apprentices and those in 'programmes and schemes' only for France, where 49 per cent of the apprentices left an academic track, against 19 per cent of the 'workers' and 27 per cent of those in youth programmes, training and employment schemes. This is, of course, related to the level of French apprentices, since vocational programmes are rare at lower-secondary level and almost half of the French apprentices left at 'failed lower second-level exam' or below. Because of the existence of lower-secondary vocational VBO in the Netherlands, this relationship does not hold for the Netherlands.

Age

In all four countries the mean age is lower for apprentices than for 'normal workers', but the difference is much larger for the Netherlands and France (around two years) than for Ireland and Scotland (less than six months). Differences in age are of course related to differences in level of education as mentioned above, which are much larger for the Netherlands and France than in Ireland and Scotland. In addition, the vocational upper-secondary tracks that typically lead directly to the labour market in the Netherlands and France last longer than the mixed (Ireland) or academic

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[9] This has to do with the absence of vocational secondary schools (lower- and upper-) as well as with the categorisation of tracks based on the mixture of 'modules' and 'Highers' in upper-secondary. Curriculum type was set to academic in the data for all who are qualified to enter Higher education.

(Scotland) secondary schooling most Irish and Scottish 'workers' have completed. Compared to school-leavers in 'programmes, schemes and training', apprentices are on average almost two years younger in France (and one VTLMT level 'less educated'), one-and-a-half years younger in the Netherlands (and half a level lower; but the percentage of school-leavers in schemes is negligible in the Netherlands), roughly the same age (and level) in Scotland and almost a year older in Ireland (and more than a level higher). Dutch apprentices were almost two years younger than their Scottish counterparts at the time of the survey. About half of this difference is a survey artefact, since most Dutch school-leavers were surveyed about one-and-a-half years after leaving school, while the Scottish were surveyed after 9 months. The age of apprentices varies much more in the Netherlands and France than in Ireland, and especially, Scotland.

Earnings

Earnings are difficult to compare cross-nationally due to differences in the way the questions were phrased or understood. Moreover, the number of valid observations is much lower than for the other variables reviewed, especially for Ireland and the Netherlands. Our data (listed in the national currencies in Table 5) show that in Ireland and the Netherlands mean earnings for apprentices are around 70 per cent of the mean for 'workers', in Scotland around 60 per cent and in France around 45 per cent. Of course, because apprentices do not work full-time, they do not earn full-time salaries. Even considering this the income data for French apprentices seem questionable. Apprentices earn more than school-leavers in Youth programmes, Training and Employment schemes in all countries except France, where their mean earnings are substantially lower. However, it is difficult to estimate how well these findings reflect real ratios, most importantly because we do not know which values are missing.

In summary, the general quantitative overview of gender, age, type and level of education of apprentices in comparison to school-leavers in other 'statuses' is consistent with the position of apprenticeship programmes reviewed in the previous section. More precisely, in Ireland apprenticeship may be roughly classified as 'post-secondary' education and training (on average apprentices are not much younger than those working or continuing in full-time education and they already have a comparatively high level of education). In the Netherlands, on the other hand, apprenticeship operates as a distinct type of upper-secondary education, which it formally is (apprentices have a much lower level of education and are much younger than 'normal workers'). French apprentices are close to Dutch apprentices in this respect, which is somewhat surprising given the fact that the French apprentices we included in our study are those who had left the secondary system for a certain period before entering an apprenticeship programme, not those who became apprentices immediately following lower-secondary education. On this dichotomy, Scotland seems closer to Ireland if differences between 'normal workers' and apprentices form the main criterion, but closer to the Netherlands and France if the average level of education of apprentices is used as the main basis for the classification. Concerning the first criterion it is important to stress that the characteristics of 'normal workers' in Scotland, and thus the comparison between this group and apprentices, would have changed if leavers from upper-secondary vocational courses at FE colleges had been included in the sample.

Concerning other 'principal activities', in Scotland 'Youth Programmes, Training and Employment Schemes' seem close to apprenticeship in terms of average age and highest stage of education (but not in terms of gender: the distribution is much more balanced here than for apprentices). In Ireland school-leavers in 'programmes' are on average much younger than those in other categories, and have a much lower level of education. In France school-leavers in programmes are somewhat younger than those working or unemployed, but almost two years older than apprentices, and on average a whole VTLMT level higher. In short, 'Youth Programmes, Training and Employment Schemes' seem to form a route parallel to apprenticeship in Scotland, differing in gender composition but not in terms of average age or level of education (apprentices may indeed be viewed as a specific type of 'Skillseeker'); a 'safety net' for lower level leavers in Ireland; and an extra step after full-time schooling (or apprenticeship) in France, for relatively highly educated youth who feel the need and have the chance to improve their 'labour marketability'. Since 'YP/T/ES' is a very heterogeneous category, its content varying highly from one country to the other (containing more training in Scotland than in France and particularly Ireland), it is doubtful whether it is useful to compare the differences between apprentices and school-leavers in this category cross-nationally.

5. Different routes to skills: a comparison of apprentices and others in specific occupational positions

How do the overall comparisons of characteristics of apprentices versus school-leavers in 'normal jobs' and 'programmes, training and schemes' hold across specific occupational categories? And what are the alternative routes to 'apprenticeship occupations', within one country as well as cross-nationally?

Not unlike the Braun-Blanquet scale used in vegetation studies, Tables 6 and 7 provide a general overview of main routes, apprentices and a basic comparison between apprentices and 'normal workers' for each occupational category (main, 1-digit ISCO groups in Table 6, 3-digit groups in Table 7). With regard to the tables, we should note two things. First, for reasons of comparability the 'total working population' of which the percentage in each ISCO category is given in the tables ('% in class') consists only of those who had 'apprenticeship', 'working for payment or profit' or enrolment in 'Youth programmes, Training and Employment schemes' as their main activity at the time of the survey. Full-time students with part-time jobs have not been included in the comparison, since their 'occupation' is not their main activity, and – given the nature of 'student jobs' – many will eventually find (or look for) employment in a different occupational class and position. If all cases with an ISCO code in the database were simply included in the total, more than 30 per cent of the total for the Netherlands would consist of students with 'student jobs', against 13 per cent for Ireland and only 3 per cent for Scotland.[10] (For Ireland only one-third of those in 'programmes and schemes' have values for ISCO in the database, but the distortions this may create for comparison purposes are much smaller than would have been the case for Sweden, because in Ireland this category represents only 3 per cent of all school-leavers.) Secondly, one should not forget that the total 'working population' in our sample is a very particular one, as it consists solely of 'entrants', young people in an occupation about one year after leaving school.

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[10] Van der Velden & Wolbers (2000: 9) also point to the possible bias related to cross-country variation in the proportion of students that have a job. The inclusion of students with part-time jobs in analyses of youth employment, as in the ECLFS data set which follows ILO conventions, may lead to anomalous findings, e.g.: "[T]he expansion of the education system has a negative effect on the integration of young people into the labour market in the sense that a large educational participation is associated with a high rate of part-time employment" (Van der Velden & Wolbers , 2000: p.1).

The first column in these tables gives the percentage of the total working population (as described above) in each ISCO class. Cross-country differences in these proportions may reflect cross-national variations in the structure of labour markets – e.g. the Dutch labour market may simply count fewer 'craft and related trades workers' than Ireland – which we will not discuss here. In addition it may reflect differences more specifically related to the transition system: if in one country school-based secondary vocational tracks and apprenticeships lead directly to an occupational class which is 'filled' with third-level leavers in other countries or with people who enter that occupational class later in their labour-market career, the percentage of the working population in that ISCO class in our sample will be higher for that country than elsewhere. This is the case with 'nursing and midwifery associate professionals' (ISCO 323), which holds 6 per cent of the total 'secondary school-leavers working population' in the Netherlands (who have arrived there through apprenticeships as well as vocational upper-secondary routes), and 0 in the other three countries (Table 7).

The second column gives the share apprentices form of the total working population in the ISCO category. Here Table 6 gives a picture that roughly resembles Table 3 in the main apprenticeship categories, without of course being identical (Table 3 gives column percentages, Table 6 row percentages for apprentices). Irish apprentices form a significant share (46 per cent) of 'craft and related trades workers' only, while in the other three countries apprentices form sizeable proportions of more categories, although they are most strongly represented in ISCO 7 everywhere.

The third column presents the 'main route' to the occupational categories, the modal category. For apprenticeship and YP/T/ES the route is taken to be apprenticeship or YP/T/ES itself, for 'normal workers' the educational track left (academic, vocational or mixed) is given as the route. While for the 1-digit ISCO groups apprenticeship forms the main route only for 'crafts' in Scotland and France, the more refined 3-digit breakdown is more illuminating (Table 7). In Ireland apprenticeship programmes are the main route to 4 categories (all within 'crafts'); for the other occupations listed most people in the job are 'normal workers' who left academic or mixed – and in one case vocational - secondary tracks, and most likely receive on the job training. In the Netherlands apprenticeship is the modal route for three categories of builders and painters only, despite the fact that apprentices are found in a much broader array of occupations. Vocational secondary education (mostly MBO) is the main route to all other groups in the table (only occupational categories with more than 5 per cent of all apprentices in at least one of the countries are listed[11]). In Scotland apprenticeship forms the main route to most of the categories in which apprentices are found, with three categories having a proportion of 80 per cent or more. Apprenticeship thus forms an almost exclusive route to occupations in the building, metal and electrical industry in Scotland. Ireland and France each count only one category to which apprenticeship is not just the main route but in practice the single 'highway' (723 and 720), while there are none in the Netherlands, where apprentices form around 40 per cent of most categories. In both France and the Netherlands vocational secondary education forms the main route to all occupations where apprentices are not predominant. Although we only listed occupations 'with apprentices somewhere', there is only one occupational category for which apprenticeship is the typical track in all four countries (ISCO 713: 'building finishers and related trade workers'). This coincides with our initial assumption that transition systems vary significantly in the way they produce skills, even in four Western European countries with apprenticeship schemes but without a 'German-type system'.

As discussed in the previous section, apprentices within one category are either predominantly female or overwhelmingly male (Table 7, fourth column): there are no categories with a male-female proportion less unbalanced than 67-33.

Returning to the comparison between apprentices and 'normal workers', we see in the last four columns of Table 7 (in Table 6 one would often compare 'normal workers' and apprentices in different specific occupations, because apprentices and others are not distributed over subcategories within the main ISCO classes in the same way) that the general differences between the two groups discussed above also tend to hold within specific occupational categories: apprentices earn less; apprentices did not follow academic tracks more than others except for French apprentices (who mostly left undifferentiated lower secondary); apprentices have a lower level of education in France and the Netherlands, but not in Ireland and Scotland; and French and Dutch apprentices are significantly younger than 'normal workers' in all occupational categories, while Irish and Scottish apprentices are not. The distinction between the Netherlands and France on the one hand and Ireland and Scotland on the other appears even clearer now, because the differences between 'normal workers' and apprentices in Ireland and Scotland on level of education and age are smaller in the comparison by occupational group than they are in general. For some ISCO classes the small differences remain significant, for others they become insignificant (which, of course, also has to do with the small number of cases), while for some Table 7 shows differences opposed to the general comparison (although these are always insignificant). Of course the general differences discussed earlier are interesting in their own right, not least because these differences, especially on level of education, are likely to affect the distribution across ISCO categories.

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[11] ISCO category 512 ('housekeeping and restaurant service workers') has been excluded, as the category proved too ambiguous.

6. Conclusion

Apprenticeship programmes in France, Ireland, the Netherlands and Scotland differ significantly in their role and position within the national transition systems. In a rough dichotomy, apprenticeship programmes form an alternative to school-based vocational education in France and the Netherlands, and a type of post-school vocational training in Ireland and Scotland. Since France and especially the Netherlands have rather differentiated school-based vocational tracks in comparison with Ireland and Scotland, the need or the functional space for apprenticeships and other training programmes seems more limited in the former two countries than in the latter. Especially in the Netherlands - where vocational upper-secondary schooling is highly occupation- and skill-specific, has comparatively strong linkages to the labour market and includes work-placement - there seems to be no specific 'skill producing' function for apprenticeship programmes. Given the high status of MBO education, apprenticeship may said to be 'vertically differentiated' from school-based vocational education. In Ireland and Scotland, on the other side, most youngsters leave secondary school without specific occupational skills. Those who do not continue into third-level education thus have to acquire these skills after leaving, in training schemes, apprenticeships or solely on the job.

Considering these differences, as well as the variation in the range of occupations and sectors at which apprenticeship programmes are aimed (largely limited to 'skilled manual occupations' in Ireland; extended to a broad array of jobs in France and especially the Netherlands), the percentage of school-leavers in our sample in an apprenticeship programme is surprisingly close to 10 per cent in all four countries, if we correct the French figure for the fact that full-time third-level students were not included in the sample. We have mentioned the possibility that French and Dutch apprenticeship programmes may mainly attract students that are 'tired' of the classroom or not bright enough for full-time upper-secondary but have to remain in the educational system because they have not yet reached the upper age limit of (partial) compulsory education. We cannot test this with our data, but the background information and the comparisons we have made seem to point in this direction.

Comparing characteristics of apprentices, 'normal workers' and people in employment schemes, training, and youth programmes, we found that apprentices differ substantially and significantly from 'normal workers' in France and the Netherlands: they are much younger and have a much lower level of education. In France apprentices also have a more 'general' secondary educational background (since most of them left at an undifferentiated stage). In Ireland and Scotland on the other hand, these differences are significant but small if the two groups are compared in general, and absent or non-significant if the groups are compared within specific occupational classes. This confirms the post-school-training character of apprenticeships in Ireland and Scotland, and the post-lower-secondary position of apprenticeships in France and the Netherlands.

Finally, comparing different routes to specific occupations in the four countries, we found only one category ('building finishers') where the main route was the same – apprenticeship – for France, Ireland, the Netherlands and Scotland. In Scotland and Ireland some occupations are predominantly 'filled' with apprentices, in the Netherlands and France apprenticeships lead to a broader spectrum of jobs, but rarely form the single typical track. In Ireland and Scotland the apprenticeship system is thus more specific, meaning narrower as well as more exclusive. In France and the Netherlands vocational secondary education is the main route to the occupations we have studied in more detail – occupations with a sizeable group of apprentices in at least one of the four countries – in Ireland and Scotland the secondary routes are much more academic.

Indeed, transition systems vary significantly in the way they produce specific skills for certain occupations, and the role and position of apprenticeships does not vary less, even in four Western European countries with modest apprenticeship programmes.

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Table 1: Principal Activity of School-Leavers at the Time of the Survey

	Ireland	Netherlands	Scotland	France	Sweden
Working for payment or profit	37.3	42.3	21.1	30.3	22.7
Apprenticeship	**8.2**	**12.0**	**12.6**	**14.4**	
Youth programmes, Training, Employment schemes	3.0	0.8	11.7	18.7	12.1
Unemployed	9.2	2.2	8.5	20.7	5.6
Student	40.2	41.9	43.9	1.9	33.4
National service				10.9	
Other	2.1	0.8	2.2	3.1	26.2
Total	100.0	100.0	100.0	100.0	100.0
N	2654	10731	3192	3502	6406

Table 2: Occupational Class (EGP) by Principal Activity at the Time of the Survey

	Ireland		**Netherlands**		**Scotland**			**France**		
	Working	**Appr**	Working	**Appr**	Working	**Appr**	*YPTES*	Working	**Appr**	*YPTES*
I - Upper service class	0.3	**0.5**	0.3		0.9	**1.5**				
II - Lower service class	5.7	**1.4**	17.5	**4.4**	2.9	**2.8**	*1.9*	2.6	**4.4**	*6.3*
IIIa – Upper routine non-manual	18.3	**1.4**	31.0	**14.6**	29.3	**11.8**	*33.5*	*37.2	***24.7**	*40.2*
IIIb – Lower routine non-manual	27.3	**4.2**	12.3	**18.6**	20.2	**4.8**	*20.2*	*	*	
IVa – Small proprietors	0.5	**0.5**	0.5					*0.5		
IVb - Self-employed	1.3	**0.5**	0.6					*		
IVc – Farmers	0.2		2.2	**0.1**	0.4			0.2	**0.2**	
V - Lower tech./manual supervisory	1.5	**0.5**	5.6	**3.3**	1.3		*1.2*	4.4	**0.6**	*3.6*
VI – Skilled manual workers	22.6	**88.9**	13.0	**33.7**	13.1	**64.5**	*24.2*	23.0	**21.5**	*27.3*
VIIa – Semi-/unskilled manual w.	18.2	**1.4**	11.8	**19.4**	27.7	**14.0**	*14.0*	29.5	**47.1**	*21.6*
VIIb – Agricultural workers	3.9	**0.9**	5.3	**5.9**	4.3	**0.8**	*4.7*	2.7	**1.4**	*1.1*
Total	100.0	**100.0**	100.0	**100.0**	100.0	**100.0**	*100.0*	100	**100.0**	*100.0*
N	981	**216**	3220	**1034**	559	**400**	*360*	1057	**497**	*496*

*France: IIIa/IIIb = III; IVa/IVb = Ivab (no distinction)

YPTES: Youth programmes, Training, Employment schemes

Table 3: Occupational Position (ISCO) of Apprentices

	Ireland	Netherlands	Scotland	France
1 – Legislators, senior officials and managers	**1.4**	**0.2**	**1.2**	
2 – Professionals	**1.4**	**0.1**	**2.7**	**0.2**
3 – Technicians and associate professionals	**1.8**	**16.6**	**4.0**	**4.8**
32 - Life science and health associate professionals		13.0	0.2	4.0
323 – nursing and midwifery associate professionals		*10.4*		
4 – Clerks		**4.0**	**11.2**	**3.4**
41 – Office clerks		2.7	10.5	2.8
419 – other office clerks		*0.3*	*5.2*	*0.4*
5 – Service workers and market sales workers	**14.7**	**22.5**	**18.7**	**33.0**
51 – Personal and protective services workers	12.8	11.3	17.0	20.5
512 – housekeeping and restaurant service workers	*3.7*	*3.4*	*3.0*	*9.8*
513 – personal care and related workers		*7.2*	*2.2*	*0.8*
514 – other personal service workers	*9.2*	*0.6*	*11.7*	*10.0*
52 – Models, salespersons and demonstrators	1.8	11.2	1.7	12.4
522 – shop, stall and market salespersons and demonstrators	*1.8*	*11.2*	*1.7*	*12.4*
6 - Skilled agricultural and fishery workers		**5.1**	**2.0**	**2.8**
61 – Skilled agricultural and fishery workers		5.1	2.0	2.8
7 - Craft and related trades workers	**77.1**	**33.5**	**55.2**	**46.7**
71 – Extraction and building trades workers	16.5	17.5	28.4	20.1'
712 – building frame and related trades workers	*2.8*	*9.2*	*14.4*	*6.4*
713 – building finishers and related trades workers	*11.5*	*4.7*	*9.0*	*13.2*
714 – painters, building structure cleaners and related tr.w.	*1.8*	*3.6*	*5.0*	*0.6*
72 - Metal, machinery and related trades workers	34.4	11.5	22.2	14.5
720 – metal, machinery and related trades workers				*9.8*
721 – metal moulders, welders, sheet-metal workers etc.	*6.9*	*2.1*	*4.0*	*1.0*
723 – machinery mechanics and fitters	*13.3*	*4.7*	*11.4*	*2.6*
724 – electrical and electronic equipment mechanics and fitters	*14.2*	*4.0*	*5.5*	*0.8*
73 – Precision, handicraft, craft printing and related tr.w.	5.0	0.6	2.2	0.2
74 - Other craft and related trades workers	21.1	3.8	2.5	11.0
741 - food processing and related trades workers		*3.5*	*1.7*	*11.0*
742 – wood treaters, cabinet-makers and related trades workers	*20.2*	*0.1*	*0.2*	
8 - Plant and machine operarors and assemblers	**1.4**	**7.4**	**3.0**	**8.0**
82 – Machine operators and assemblers	1.4	3.5	1.7	6.6
83 – Drivers and mobile plant operators		3.3	1.0	0.4
9 – Elementary occupations	**2.3**	**10.7**	**2.0**	**1.0**
91 - Sales and services elementary occupations		6.5	0.5	0.8
913 – domestic and related helpers, cleaners and launderers		*6.2*		*0.8*
93 – labourers in mining, construction, manufacturing and trade	1.4	3.8	1.0	0.2
Total	**100.0**	**100.0**	**100.0**	**100.0**
N	**218**	**1164**	**402**	**497**

(shown: all 1 digit groups,
2 digit groups with >= 3.0% in at least one country,
3 digit groups with >=5.0% in at least one country)

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Table 4:Highest Educational Stage (VTLMT) by Principal Activity at the Time of the Survey

	Principal activity: time of survey							
Ireland	**Working**	**Appr.**	**YPTES**	**Unempl.**	**Student**	**Nat. ser.**	**Other**	**Total**
Inc. lower s.	5.1	2.3	36.7	18.3	0.2		17.5	5.3
Failed lower	5.3	9.2	6.3	6.2	0.6		10.5	3.9
Passed lower	16.1	26.1	17.7	22.0	1.8		31.6	12.1
Failed upper	11.8	8.7	5.1	10.4	5.1		5.3	8.3
Passed upper	61.8	53.7	34.2	43.2	92.4		35.1	70.4
	100.0	100.0	100.0	100.0	100.0		100.0	100.0
N	986	218	79	241	1067		57	2648
Netherlands								
Inc. lower s.	2.6	5.9		11.3	0.9		7.1	2.5
Failed lower	3.4	8.5		1.3	1.4			3.1
Passed lower	26.2	53.4	44.3	40.8	7.1		37.6	22.1
Failed upper	10.6	6.0	19.3	16.7	6.7		15.3	8.7
Passed upper	57.1	26.2	36.4	30.0	83.9		40.0	63.7
	100.0	100.0	100.0	100.0	100.0		100.0	100.0
N	4535	1292	88	240	4493		85	10733
Scotland								
Failed lower	19.6	24.5	31.5	53.3	3.5		27.9	17.6
Passed lower	25.4	37.9	35.7	18.8	8.5		17.6	20.0
Failed upper	20.1	20.8	22.1	12.9	12.5		14.7	16.3
Passed upper	34.9	16.8	10.7	15.1	75.5		39.7	46.0
	100.0	100.0	100.0	100.0	100.0		100.0	100.0
N	673	404	375	272	1401		68	3193
France								
Inc. lower s.	0.9	19.1	3.9	3.9	5.6	0.5	3.7	4.8
Failed lower	11.9	29.1	16.0	22.5	13.0	17.4	40.4	18.9
Passed lower	8.0	13.9	12.2	6.6	22.2	8.2	9.2	9.6
Failed upper	3.4	3.8	4.5	6.2	7.4	5.3	8.3	4.7
Passed upper	75.8	34.1	63.4	60.8	51.9	68.6	38.5	62.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	1055	498	648	715	54	379	109	3458

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Table 5: Gender, Age, Level of Education (VTLMT), Type of Programme and Earnings by Principal Activity at the Time of the Survey

	Principal activity: time of survey																				
	Working			**Apprenticeship**						**Unemployed**			**Student**			**National service**			**Other**		
Ireland	Mean	N	Std D	Mean	N	Std D	Mean	N	Std D	Mean	N	Std D	Mean	N	Std D	Mean	N	Std D	Mean	N	Std D
Gender	0.51	989	0.50	0.13	217	0.34	0.39	80	0.49	0.47	243	0.50	0.55	1068	0.50				0.64	57	0.49
Age at time of interview	19.01	989	1.33	18.57	217	1.08	17.85	80	1.67	18.43	243	1.42	19.14	1068	0.85				18.72	57	1.55
Highest stage: VTLMT	4.20	986	1.19	4.03	217	1.17	2.95	80	1.73	3.53	241	1.53	4.89	1067	0.44				3.29	57	1.49
Type of programme	1.51	930	0.50	1.49	207	0.50	1.64	73	0.48	1.57	226	0.50	1.87	1023	0.34				1.66	50	0.48
EARN	154	545	58	110	95	42	99	12	61	72	5	60	55	134	37					0	
Netherlands																					
Gender	0.49	4533	0.50	0.38	1292	0.49	0.59	88	0.49	0.57	239	0.50	0.50	4489	0.50				0.46	85	0.50
Age at time of interview	20.66	4504	1.90	18.92	1285	1.63	20.27	88	1.30	20.40	236	1.90	19.60	4451	1.37				19.34	82	1.90
Highest stage: VTLMT	4.16	4534	1.08	3.38	1292	1.13	3.92	88	0.90	3.53	239	1.25	4.71	4493	0.73				3.80	85	1.19
Type of programme	1.09	4534	0.28	1.14	1292	0.35	1.09	88	0.29	1.07	239	0.26	1.68	4493	0.47				1.35	85	0.48
EARN	1990	3037	961	1405	860	1022	1155	72	401	997	19	482	480	1744	808				1216	11	752
Scotland																					
Gender	0.54	672	0.50	0.28	403	0.45	0.45	375	0.50	0.47	272	0.50	0.52	1401	0.50				0.73	69	0.45
Age at time of interview	17.35	672	0.82	16.96	403	0.73	16.88	375	0.75	16.90	272	0.78	17.82	1401	0.76				17.40	69	0.83
Highest stage: VTLMT	3.70	672	1.14	3.30	403	1.02	3.12	375	0.98	2.89	272	1.12	4.60	1401	0.79				3.67	69	1.26
Type of programme	1.84	672	0.37	1.79	403	0.41	1.81	375	0.39	1.88	272	0.32	1.90	1401	0.29				1.95	69	0.21
EARN	107	509	36	64	371	29	51	353	26	83	47	49	112	35	42				97	9	41
France																					
Gender	0.55	1061	0.50	0.34	503	0.48	0.62	656	0.49	0.60	725	0.49	0.60	65	0.49	0.02	383	0.15	0.73	109	0.45
Age at time of interview	20.56	1061	1.38	18.30	503	1.67	20.15	656	1.60	20.28	725	1.62	19.67	65	1.70	20.43	383	1.33	19.91	109	1.40
Highest stage: VTLMT	4.41	1056	1.11	3.05	498	1.57	4.07	648	1.32	3.97	715	1.39	3.87	55	1.35	4.24	379	1.20	3.37	109	1.43
Type of programme	1.19	1061	0.40	1.49	503	0.50	1.27	656	0.44	1.22	723	0.41	1.50	65	0.50	1.17	383	0.37	1.20	109	0.40
EARN	4594	746	1955	2040	440	1134	3203	386	1412		0			0			0			0	

Gender: 0=male, 1=female. **Highest stage**: see Table 4 **Type of programme**: 1=vocational, 2=general/academic **EARN**: earning in local currency (see text)

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Table 6: Share of apprentices within main occupational categories (ISCO), main route, characteristics of apprentices relative to workers

	% in class				% apprentices				main route				Gender				apprentices compared to 'normal workers': younger				lower vtlmt				more a2				earn less			
Occupation: ISCO-88 eq. 1 digit	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F
3 – Technicians and associate professionals	3	20	6	6	12	18	22	19	2	v2	a2	v2		F	MF	F		**x**	x	**x**		**x**	x	**x**		**x**	0	x		**x**	**x**	**x**
4 – Clerks	15	13	25	16	0	7	14	5	2	v2	a2	v2		F	F	FM		**x**	**x**	**x**		**x**	x	**x**		x	0	x		**x**	**x**	**x**
5 – Service workers and market sales workers	29	24	21	27	9	21	26	30	2	v2	a2	v2	F	F	F	F	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**x**	**0**	**x**	**x**	**x**	**x**	**x**
6 - Skilled agricultural and fishery workers	0	6	3	2	0	20	21	31		v2	a2	v2		M	M	M		**x**	x	**x**		**x**	x	**x**		0	**x**	x		**x**	**x**	**x**
7 - Craft and related trades workers	30	17	28	26	46	43	61	43	2	v2	A	A	M	M	M	M	x	**x**	**x**	**x**	0	**x**	0	**x**	0	**x**	**0**	**x**	**x**	**x**	**x**	**x**
8 - Plant and machine operators and assemblers	6	8	6	13	4	19	15	15	2	v2	a2	v2		M	M	M		**x**	0	**x**		**x**	x	**x**		0	0	**x**		**x**	x	**x**
9 – Elementary occupations	13	9	9	9	3	26	7	3	2	v2	a2	v2		M	M			**x**	0			**x**	0			x	0			x	**x**	

% in class: % in the ISCO category of all having 'working for payment or profit', 'apprentice' or 'Youth programmes, Training, Employment Schemes' as principal activity at the time of the survey ('column %')
% apprentices: % apprentices form of 'all' in the ISCO category ('row %')
main route: modal category for 'all' in the ISCO category;

A: apprenticeship
v2: vocational secondary (>66% vocational)
a2: academic/general secondary (>66% academic/general)
2: mixed secondary
(Youth programmes, Training, Employment Schemes do not appear anywhere as main route)

gender: gender of apprentices

M: >66% male
F: >66% female
MF, FM: mixed

Apprentices compared to 'normal workers': relates to statement in column heading ('normal workers' are 'working for payment or profit')

x: statement is true for apprentices as compared to workers in the ISCO category
0: statement is not true (no difference or opposite)
bold x or 0 indicates significant (p<.05) difference

Table7: Share of apprentices within 3-digit occupational categories (ISCO), main route, characteristics of apprentices relative to workers

																	apprentices compared to 'normal workers'															
	% in class				% apprentices				main route				Gender				younger				lower vtlmt				more a2				earn less			
Occupation: ISCO-88 eq. 3 digit	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F	I	N	S	F
323 – nursing and midwifery ass. prof.	0	6	0	0		37				v2				F				x				x				x				x		
419 – other office clerks	0	4	12	2		2	14	6		v2	a2	v2			F				x				0			0				x		
513 – personal care and related trade workers.	1	4	3	5	0	45	21	4	a2	v2	YT	v2		F	F			x	0			x	0			0	0			x	x	
514 – other personal service workers	4	1	5	4	44	23	80	61	a2	v2	A	A	F	F	F	F	x	x		x	x	x		x	x	x		x	x	x		x
522 - shop, stall, market salespersons and demonstrators	13	14	8	9	3	18	7	33	2	v2	a2	v2		F	M	F		x	x	x		x		x		x	0	x		x	x	x
712 – building frame and related trade workers	1	4	7	4	43	54	60	36	v2	A	A	v2	M	M	M	M	x	x	0	x	x	x	0	x	x	0	0	x		x		x
713 – building finishers and related trade workers	3	2	3	5	61	51	92	65	A	A	A	A	M	M	M	M	0	x		x	0	x		x	0	0		x	x	x		x
714 – painters, building structure cleaners and rtw.	1	1	3	1	57	66	61	21	A	A	A	v2	M	M	M	M		x				x				0				x		
720 – metal, machinery and related trade workers	-	-	-	3				88				A				M				x				x			x					
721 – metal moulders, welders, sheetmetal workers etc.	3	1	2	1	48	36	59	25	2	v2	A	v2	M	M	M		0	x			0	x			0	0				x		
723 – machinery mechanics and fitters	3	3	6	4	76	35	62	18	A	v2	A	v2	M	M	M	M	0	x	x	x	0	x	x	x	x	0	0	x		x	x	x
724 – electrical and electronic equipment mech. and fitters	8	2	2	1	32	36	79	17	2	v2	A	v2	M	M	M		x	x			x	x			0	x			x	x		
741 - food processing and related trade workers	0	2	1	4		47	41	71		v2	a2	A		M	M	M		x	x	x		x	x	x		x	0	x		x	x	x
742 – wood treaters, cabinet makers and r.tw.	5	0	0	0	67				A				M				0				0				0				x			
913 – domestic etc helpers, cleaners and launderers	2	3	1	4	0	40	0	4	a2	v2	a2	v2		M				x				0				0				0		

All ISCO 3-digit categories with >=5% of all apprentices in ate least one country are shown, except 512 'housekeeping and restaurant service workers' (excluded as too ambiguous)
See table 6 for legend.

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WORKING PAPERS

Apprenticeship in Ireland, the Netherlands and Scotland: Comparison of Trends 1979-1997

Jannes Hartkamp

Hans Rutjes

DESAN
Amsterdam
The Netherlands
E-mail: jannes.hartkamp@desan.nl

1. Introduction

Apprenticeship has an impressive history as arguably the oldest form of vocational education. The specific combination of schooling and work also seems to have a promising future. Extensive apprenticeship programmes are certainly not a general, ready-made and easily transferable solution to tackle youth unemployment and improve the linkage between educational systems and labour markets, as sometimes has been suggested (e.g. EC, 1997; EC, 1996; OECD, 1996; OECD, 1994), often simply on the basis of the low German youth unemployment rate and the size of the German apprenticeship programmes. It has proved very difficult to assess the real relative merits of apprenticeship programmes, mainly because real alternatives for a direct comparison can seldom be found and because the relative merits depend highly on the type and timing of the criteria used (see Ryan, 1998). Still, the apprenticeship programmes in different countries - each having a specific place, role and function within the respective transition systems (Hartkamp & Rutjes, 2000) – undoubtedly have their value. And the rise of 'life-long learning' as a core concept in education and labour-market policy opens new perspectives for apprenticeship. At present apprenticeship programmes are largely targeted at young people who leave school-based secondary education to train them for certain skilled manual occupations, but there is no reason why apprenticeship would not work for other age groups and other sectors and occupations. Indeed, apprenticeship may become an important instrument in the implementation of life-long learning policies. And the existing differences in the role, place, function and organisational formats of apprenticeship across countries provide a rich variety of examples that can be used in building well-tailored programmes for life-long learning, fine-tuned to the needs of each group and the characteristics of the 'surrounding' labour market and ET-system.

Subject

A small part of the rich variety in apprenticeship programmes has been analysed by Hartkamp and Rutjes (2000) which outlined the general cross-national differences and similarities in the position of apprenticeship programmes within the respective transition systems of France, Ireland, the Netherlands and Scotland around the mid-1990s, and compared basic characteristics of apprentices, using the 'current' CATEWE SLS database which integrates several recent national school leavers' surveys (see CATEWE, 2000). Even these four Western European countries with relatively modest apprenticeship programmes turned out to differ significantly in the role and position of apprenticeships and the characteristics of apprentices. In broad terms, apprenticeship is an alternative to school-based vocational education in France and the Netherlands and a type of post-school vocational training in Ireland and Scotland. In the first two countries apprentices are much younger and have a lower level of education than school leavers in 'normal' jobs, whereas in Ireland and Scotland these differences are small or absent. The countries also differ strongly in the type and range of occupations for which apprentices are trained. Apprenticeship in Ireland is almost exclusively limited to skilled manual occupations, less so in Scotland, while in France and especially the Netherlands the array of occupations is rather broad. Looking from another angle, in Scotland apprenticeship is more often the main route to a specific occupation or group of occupations than in the other countries, and sometimes seems the only way there.

Given the variation in programmes and transition systems, the percentage of school leavers in an apprenticeship about one year after leaving secondary school was surprisingly close in the four countries around 1996 at around 10 per cent. In the current paper we will look at developments in the size of apprenticeship programmes as a whole and at changes in the distribution of apprentices over occupational categories in three of the four countries (Ireland, Scotland and the Netherlands) over the last two decades of the last century.

Data and methods

The data used here are taken from the 'time-series' school leavers' surveys (SLS) database that has been constructed as part of the CATEWE project. This database integrates five surveys of school leavers in Ireland (1980, 1985, 1989, 1993 and 1997), five for Scotland (1979, 1985, 1989, 1993 and 1995) and three for the Netherlands (1989, 1993 and 1997), each surveying school leavers who left secondary education the previous school-year, about one year earlier. The period covered for the Netherlands is much shorter because the Dutch survey was initiated later. No representative time-series data were available for France, which is why the country is excluded from this study.

In principle the surveys include all 'second level system leavers': young people who had left full-time secondary education and had not re-entered it at the time of the survey. An important exception to this principle are Scottish leavers who left secondary school to enrol in education at the secondary level in colleges for Further Education. Iannelli and Raffe (2000) estimated the size of this group for the 1995 survey at 12-13 per cent of all leavers.

The time-series database has been constructed on the basis of a common set of variable-definitions. Where changes had taken place in the phrasing of questions in the surveys over the years, categories have been recoded to ensure consistency. Where the national classification systems for the coding of responses had changed, existing 'mappings' were used when available, specific mappings constructed when necessary. The national occupational and industrial classification systems changed in all three countries during the period studied here. In spite of the common variable definitions and the recoding procedures, some minor changes between different time-points concerning occupational categories may be caused by classification-artefacts (see CATEWE, 1999 for more details on the database).

What is and what is not an apprenticeship is hard to define sharply and consistently in an international-comparative context by objective criteria.[1] Apprenticeship certainly has certain features in common across countries (see Hartkamp and Rutjes, 2000 for an overview of the structure and organisation of the programmes in France, Ireland, the Netherlands and Scotland. See also Hannan, 1999; EURYDICE/CEDEFOP, 1995; CEDEFOP, 1999), but in some cases rather similar programmes might be known as 'apprenticeship' in one country and 'training programme', for instance, in another. Here we follow the national terminologies: programmes categorised as apprenticeships in their respective countries are regarded as apprenticeships here. In addition to this it should also be pointed out that 'apprentices' in this paper are those who had apprenticeship as their main activity at the time of the survey. In other words: apprenticeship programmes figure in the data as a 'destination' of secondary school leavers - like 'working for payment or profit', 'unemployed' or (full-time third-level) 'student' – and not as a type of education left.

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[1] See Schröder (2000) for a similar point on 'Youth Programmes'. See for instance CATEWE (1999), Braun & Müller (1997) and Steedman (1996) for a more general discussion on problems of educational definitions and classifications in comparative research.

To treat apprenticeship as a destination and not as a type of vocational upper secondary education is more consistent with the Irish and Scottish transition systems than with the Dutch, but the definition of the population in the surveys does not allow otherwise.

2. The quantitative importance of apprenticeship programmes

The development over the last two decades of the twentieth century of the percentage of school leavers in apprenticeships about one year after leaving secondary education shows similar patterns for Ireland and Scotland (table1): the proportion of apprentices decreased significantly between 1980 and 1985 (from 12.6 to 6.6% in Ireland, from 21.0 to 11.5% in Scotland), then remained relatively stable, and increased somewhat again towards the end of our time-series (more significantly in Ireland than in Scotland, but the last Scottish survey was two years earlier than in the other two countries).

Looking at the lines in figure 1a, we see for both countries a clear steadily rising line for the percentage of school leavers continuing in education. Moreover, in Ireland the curves representing 'working for payment or profit' and 'unemployed' form mirror-images, while the percentage in 'Youth programmes, Training and Employment schemes' more or less follows the developments in the percentage unemployed.[2] The apprenticeship curve seems relatively independent, and resembles the 'working' line closest, if any. In Scotland, on the other hand, the 'working for payment or profit' and 'apprenticeship' curves follow rather similar patterns; none of the other curves seems directly related to the percentage unemployed, and here the trends for 'apprenticeship' and 'Youth programmes, Training and Employment schemes' mirror each other. One should note that in 1979 most Scottish YOP (the predecessor of the YTS) programmes lasted only six months, so many school leavers would already have finished these by the time of the survey.

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[2] An 'aggregate logic' similar to the "apprenticeship is good – look at youth unemployment rates in dual-system countries"-argument might lead to the conclusion that youth programmes, training and unemployment schemes *stimulate* unemployment.

In the trends in the sub-division of the total 'active population' (all of the above categories minus 'students', figure 1b) and 'total working population' (active population minus unemployed, figure 1c), we also find that in Scotland the apprenticeship curve follows the 'working' curve, and mirrors the 'programmes and schemes' curve much more precisely than in Ireland. Since there is no national service in Ireland and Scotland, and 'other' is a relatively insignificant category (table 1), the size of the total 'active population' (working for payment or profit; apprentice; youth programmes, training and employment schemes; unemployed) decreases steadily as the percentage of school leavers in continuing education rises. The 'total working population' obviously also decreases in relative size, but less linearly, because the general tendency is 'distorted' by unemployment fluctuations, more markedly in Ireland than in Scotland. In both countries unemployment among school leavers was largely at the same level at the end of the period as at the starting point, but reached highs in 1985 and 1993.

Considering the shares of 'normal jobs', apprenticeships and 'programmes and schemes' *within* the total working population (figure 1c), we find a more stable pattern in Ireland than in Scotland. In *Ireland* the sub-percentage of school leavers 'working for payment or profit' is close to 80% for all years except 1985, when almost one-fifth (of the total working population) were in 'programmes and schemes'. In *Scotland* the sub-division of the working population over the three 'principal activity' categories fluctuates much more: the percentage of 'normal workers' varies between 39 (1989) and 63 (1979), of apprentices between 16 (1989) and 30 (1979), and of school leavers in 'programmes and schemes' between 7 (1979) and 45 (1989).

That 'programmes and schemes' appear to act more like communicating vessels with apprenticeship in Scotland, while in Ireland they correlate clearly with unemployment, is a function of the different characteristics of the category: more training programmes in Scotland, more employment schemes in Ireland. After the reconstruction of the Scottish YOP into the Youth Training Scheme (YTS) in the early eighties, training schemes became more widely available, in many cases as an alternative to apprenticeships (see EURYDICE/CEDEFOP, 1995; CEDEFOP, 1999). This development was in a sense institutionally confirmed after the time of the survey, in 1996, when the new Modern Apprenticeships were officially incorporated into the Skillseekers Programme, as the YTS has been called since 1991 (see Schröder, 2000; PACEC, 1998).

In *the Netherlands* unemployment has been very low in comparison all through the 1990s, no training schemes as such exist and youth employment schemes, introduced in the early 1990s, have played a negligible role for school leavers, partly because of the favourable labour market situation and because eligibility for the programme requires having been unemployed for a period of six months (see Schröder, 2000; Pascual, 2000). In the Netherlands about one-fifth of all second-level leavers were in apprenticeship programmes in 1989 and 1993, but the percentage has dropped significantly since to less than fifteen percent in 1997. The decrease in the number of apprentices in the mid-1990s reflects a certain negligence on the part of the educational bodies, employers and government and the ineffectiveness of policy measures to support apprenticeship programmes and ensure a sufficient supply of apprenticeship pla[illegible] also reflects the increasing difference in status between apprenticeship programmes and school-based vocational upper-secondary education (MBO) and the restructuring of the training systems for certain occupations (nurses for instance) from apprenticeship to school-based training with extensive periods of on-the-job practice.

In order to unify as well as flexibilise vocational education and training, but also to give new impetus to apprenticeship, the Dutch Education and Vocational Training Act (WEB) has significantly changed the organisation of vocational education. From August 1997 students in upper-secondary vocational education and training can choose at different levels between a track in which the emphasis lies on learning at school (the 'BOL' pathway, similar to former MBO) and a track which is primarily based on learning on-the-job. The latter, the 'BBL' pathway, is the successor of the apprenticeship route, although it is no longer called apprenticeship. The aim of the WEB-reforms was to offer both parallel routes for each subject in upper-secondary vocational education. In practice many occupational qualifications can still only be reached through one of the two routes (SER, 1999).

Although the trends for the Netherlands in the CATEWE data reflect real developments and are supported by statistics from the Dutch CSO (CBS, 2000), the exact percentages in figure 1 should be treated with some caution as the questions in

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[3] See Borghans & Smits (1996) for an overview of developments in the Dutch apprenticeship system.

the Dutch survey related to apprenticeship and the 'principal activity at the time of the survey' variable have changed over the years. Since not all changes could be corrected for, the resulting data are not fully consistent over time. Moreover, the 'time of the survey' itself has changed for the Netherlands, from Spring in the earlier years (about 10 months after leaving school for most leavers) to Autumn in 1997 (about 16 months after).[4] Most probably the percentages in figure 1a somewhat overestimate the real decrease in the proportion of school leavers in apprenticeship, which also seems to have reached its lowest point in 1997.

3. The occupation of apprentices

EGP of apprentices

With regard to the (occupational) social class position of apprentices, *Ireland* fits the 'apprenticeship as a route to skilled manual jobs' picture best, and even more so now than two decades ago. The Irish data for 1980 in table 2 (and 3 and 4 below) are not fully comparable with the subsequent years, as they are based on a different occupational classification system (MANCO instead of the census 1981 and 1986 coding). This mainly concerns the distinctions between both routine non-manual classes and the 'semi-/unskilled manual workers' category, and the sudden drop in 'upper-routine non-manual' apprentices is partly related to coding changes. But the decrease in the share of lower-routine non-manual apprenticeships between 1989 and 1993 is real, and so is the rise in the percentage of Irish apprentices that are classified as skilled manual workers, from 80 percent in the early 1980s to 90 percent in the late 1990s (figure 2).

In *Scotland* the distribution of apprentices over EGP classes is much more diffuse and fluctuating (table 2). As in Ireland, most apprentices are in skilled manual jobs, but not as exclusively, and not increasingly so. The share of apprentices in skilled manual jobs declined between 1979 and 1989, rose to a high around 1993, than dropped again (figure 2). The proportion of apprentices in the service class peaked in 1989; apprenticeship in lower technical / manual supervisory jobs disappeared after 1989; and the percentage of apprentices in semi-/unskilled manual occupations, decreasing slightly until the early 1990s, seemed to rise again from 1993. The only clear trend over the 1979-1995 period for Scotland that can be derived from table 2 is an increase in the proportion of apprentices in the routine non-manual class, from 5 percent in 1979 to 17 percent in 1995.

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[4] The same change in 'timing of the survey' happened in Ireland at the same time, but whereas a comparison between principal activity in May and at the time of the survey shows minor changes for Ireland, the effect of the change in survey time in the Netherlands cannot be sufficiently established, as too many cases have missing values on principal activity in May.

For *the Netherlands* the percentage of missing values for apprentices on the EGP variable is too high and too variable over time[5] to analyse the remaining valid data, alone or in comparison with the total labour force or working population. The same is true for the ISCO-classification. Using the 1997 database, Hartkamp and Rutjes (2000) found that apprenticeship in the Netherlands is much less restricted to the skilled manual class or 'craft and related trades' occupations than in Scotland and especially Ireland. Unfortunately the time-series data does not allow an analysis investigating whether this relative variety and broad spectrum character of the Dutch apprenticeship system has increased or decreased in the 1990s, in absolute terms or in comparison with Ireland and Scotland. However, the changes *since 1997*, following the WEB-reforms, are likely to be far more significant than the developments between 1989 and 1997.

Share of apprentices within EGP classes

Looking at apprentices and EGP class 'row-wise' instead of 'column-wise', we find that in *Ireland* the share of apprentices has decreased in each major EGP class between 1980 and 1997, not only in the service and routine non-manual classes, but also in the manual workers categories. In 1980 apprentices accounted for 61% of all school leavers who were working as skilled manual workers (for 'payment or profit', as apprentice, or in 'youth programmes, training or employment schemes' – working students and 'others' are excluded), but their share dropped to 45% at the end of the 1980s and has been more or less stable since. Thus, although apprenticeship in Ireland has become more and more limited to skilled manual occupations during the last two decades of the twentieth century (figure 2), it has in the same period ceased to be the main route to skilled blue collar jobs (figure 3).

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[5] 49.2% have valid values for 1989, 71.9% for 1993 and 78.9% for 1997.

This finding is not self-evident. Figures 1c and 2 may together suggest that the share of apprentices within the 'skilled manual working class' in Ireland should have risen between 1993 and 1997: apprentices account for a larger proportion of the 'total working population' (figure 1c), while the percentage of all apprentices that are trained in skilled manual jobs remains invariably high (figure 2). The reason for the apparent paradox lies in a significant change in the occupational structure of the Irish 'school-leavers labour market' as a whole in the period under study: between 1993 and 1997 the percentage of 'normal workers' that were in skilled manual jobs rose from 13 to 23 percent (table 2), and the overall size of the skilled manual class increased from 23 to 34 percent of the 'total working population' (figure 4). In the same period the category of semi-/unskilled manual workers shrank accordingly. The growth of the skilled manual class within the Irish labour market for young people who leave secondary education may from one side be explained by booming manufacture and construction industries[6] - typical skilled manual sectors - and from the other by an increase in vocational qualifications.[7] More Irish leavers left the ET system with skills, and at the end of the 1990s the Irish economy could use these very well.

Since apprenticeship in *Scotland* is less limited to skilled manual jobs than in Ireland, especially towards the end of our time-series, it is no surprise to find that apprentices form more sizeable (albeit never large) shares of other occupational classes, most importantly the routine non-manual classes and semi-/unskilled manual workers. Following the overall proportion within the working population (figure 1c), the share of apprentices within these classes decreased (semi-/unskilled manual workers) or was stable until 1989, and has grown since (figure 3). Concerning the proportion of apprentices among all skilled manual workers, the directions of the developments are at any point in time the same as in Ireland, but the fluctuations are much larger. In the late 1970s and again in the early 1990s apprenticeship formed the main route to skilled manual occupations, but in 1989 less than one-third of all school leavers in skilled manual occupations were apprentices. In Scotland these fluctuations cannot be explained by changes in the occupational make-up of the 'school-leavers labour market' as a whole: the distribution of the 'total working population' over the EGP classes (figure 4) does not change much in the 1979-1995 period, except for a steady decline in the lower service class. But the relative share of 'normal workers', apprentices (figure 3) and 'trainees' within each EGP class varies significantly as does the distribution of each category over EGP classes (table 2). There is much more movement between the three sub-categories of the 'total working population' than in Ireland. They seem closer to each other in content and their relative share seems to depend much on current rules, programmes and arrangements.

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[6] While the proportion of apprentices in manufacturing decreases, in construction it almost doubles between 1993 and 1997, from 23 to 42% of all apprentices (table not shown).

[7] The proportion of school leavers in 'normal jobs' who left upper-secondary vocational/academic programmes increased significantly between 1989 and 1993, then slightly decreased. This is also true for 'normal workers' in the manufacturing and in the construction industry. As we have seen, the proportion of 'normal workers' in skilled manual jobs only increased after 1993, as did the proportion of skilled manual jobs within manufacture and construction. Perhaps the skills came earlier than the jobs, as Ireland went through a minor recession in the early 1990s (see figure 1a).

ISCO of apprentices

The trends described above on the basis of the EGP scale are to a certain extent reflected in the ISCO-88 classification.

In *Ireland* the percentage of apprentices working in crafts and related trades was stable during the 1980s, increased in the early 1990s, then decreased somewhat (table 3). In 1997 more than three-quarters of all apprentices were in crafts and related trades, slightly more than in 1980. However, the share apprentices form of all school leavers who are working and/or being trained in crafts and related trades has decreased, from 57 per cent in 1979 to 45 per cent in 1997 (table 4). The trends are similar to those shown above for the EGP-class of skilled manual workers, and so is the explanation: the total size of the occupational category (ISCO 7) has grown significantly in the mid-1990s, from 21 percent in 1993 to 30 percent in 1997 (table 5). Besides crafts there is only one other ISCO category in Ireland where a sizeable percentage of apprentices can be found: 'service workers and market sales workers' (ISCO 5). The significance of this category for apprenticeship increased strongly in the early 1980s but decreased again in the early 1990s. As opposed to crafts, apprentices never formed more than a very small proportion of all school leavers in service and market sales occupations: less than fifteen percent at the beginning of the period, less than ten at the end.

In *Scotland*, where apprentices are occupationally more diversely distributed, the ISCO trends for crafts and related trades also resemble the developments for skilled manual workers in the EGP classification above: the percentage of all apprentices that were in crafts decreased significantly from 1979 until 1989, then increased, and dropped again. The share apprentices form of all school leavers in crafts and related trades has fluctuated more strongly: in 1979 two-thirds of all crafts workers were apprentices, in 1989 less than one third, in 1995 61 per cent (table 4). The proportion of apprentices within the category increased since 1989 not because the category as a whole would have shrunk (table 5 shows the overall size of all occupational categories is rather stable in Scotland), but because the total number of trainees decreased and a smaller proportion of them went to craft occupations (table not shown). Around 1980 apprenticeship in Scotland was almost as limited to crafts as it was in Ireland, but since the early 1980s significant numbers of apprentices can also be found in service and market sales occupations and in 1995 more than ten percent of all apprentices were clerks. But less than fifteen percent of all clerks (in the 'school leavers labour market' that is) are apprentices, and roughly one quarter of all service and market sales workers.

6. Conclusion

Towards the end of the 1990s apprenticeship in Ireland was almost exclusively limited to skilled manual occupations (EGP) and to crafts and related trades (ISCO). The Scottish apprenticeship system was also rather 'focused', but to a lesser extent. In the Netherlands, however, the apprenticeship system covered a broad array of occupations and only one third of all Dutch apprentices were in skilled manual jobs. Due to this 'diffusion' and the existence of very occupation-specific school-based vocational education, apprenticeship hardly ever formed the predominant route to a certain occupation in the Netherlands. In Scotland apprenticeship was the main route to crafts and related trades as a whole and represented almost the only way into some occupations. Although Irish apprenticeship was more limited to crafts, crafts were less limited to apprentices than in Scotland.

Studying the developments in apprenticeship in Ireland and Scotland from the early 1980s to the second half of the 1990s, we find that the 'occupational differences' were smaller at the beginning of the period: apprenticeship became somewhat more limited to crafts or skilled manual jobs in Ireland and significantly less limited in Scotland, where apprentices appeared in service and market sales occupations in the early 1980s and in clerical jobs in the early 1990s. Paradoxically in Ireland apprenticeship ceased to be the main route to skilled blue collar jobs even though a larger percentage of all Irish apprentices were found in these occupations. This is explained by the fact that the overall size of the skilled manual class in the 'school leavers labour market' in Ireland increased strongly toward 1997, due to a boom in manufacture and the construction industry and an increase in vocational qualifications: the Irish ET system provided more skills and the Irish economy employed these eagerly.

The structure of the Scottish youth labour market has been very stable in comparison with Ireland. But the way the labour market is divided between apprentices, trainees and 'normal workers' has been fluctuating heavily in Scotland between 1979 and 1995. Whereas in Ireland the percentage of school leavers in 'youth programmes, training and employment schemes' largely seemed to follow unemployment rates and the apprentice percentage appears as quite independent, in Scotland the apprenticeship, training and 'normal work' categories seem communicating vessels, their shares going up and down depending on current rules and arrangements. Admittedly the 'youth programmes, training and employment schemes' is a very ambiguous category. In Ireland it covers more employment schemes, in Scotland training programmes that are not so far removed from apprenticeship.

The occupational trends in relation to apprenticeship could unfortunately not be analysed for the Netherlands because of the high percentage of missing values on EGP and ISCO in the Dutch data for 1989 and 1993 (there are no earlier time points in the data base). What can be said about the three countries is that at any time point in the table the percentage of school leavers in apprenticeships was higher in the Netherlands than in Scotland, and higher in Scotland than in Ireland. The development in the number of apprentices shows similar curves for Ireland and Scotland, with a steep fall in the early 1980s and a slow rise towards the end of the 1990s, but the decline was steeper in Scotland and the rise less clear. Because of this, and because the percentage of apprentices in the Netherlands declined strongly in the mid-1990s, in terms of the numbers of apprentices the three countries were much closer to each other towards the end of the 1990s than they were in 1989. On this point Ireland and Scotland were also much closer than in 1980, even though the occupational make-up of their apprenticeship systems diverged.

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Table 1: Principal Activity of School Leavers at the Time of the Survey

Ireland	1980	1985	1989	1993	1997
Working for payment or profit	56.6	35.3	41.7	32.1	37.3
Apprenticeship	12.6	6.6	6.5	4.7	8.2
Youth programmes, Training, Employment schemes	0.8	9.3	4.2	3.9	3.0
Unemployed	7.6	20.7	12.9	18.6	9.2
Student	19.9	26.8	33.2	39.2	40.2
National service					
Other	2.5	1.3	1.5	1.6	2.1
Total	100.0	100.0	100.0	100.0	100.0
n	3404	2067	1987	2192	2654

Scotland	1979	1985	1989	1993	1995
Working for payment or profit	44.4	26.2	24.0	21.3	21.1
Apprenticeship	21.0	11.5	10.1	11.6	12.6
Youth programmes, Training, Employment schemes	5.2	20.2	27.5	14.1	11.7
Unemployed	8.8	15.4	6.5	11.0	8.5
Student	18.1	24.0	27.5	40.2	43.9
National service					
Other	2.5	2.7	4.3	1.8	2.2
Total	100.0	100.0	100.0	100.0	100.0
n	5948	5518	4753	3641	3192

Netherlands	1989	1993	1997
Working for payment or profit	37.6	29.9	47.3
Apprenticeship	21.4	20.5	13.8
Youth programmes, Training, Employment schemes		1.4	0.8
Unemployed	3.8	4.1	2.6
Student	24.1	34.7	34.3
National service	7.9	7.1	
Other	5.2	2.3	1.2
Total	100.0	100.0	100.0
n	16236	17728	11488

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Figure 1a: Principal Activity of School Leavers at the Time of the Survey (%)

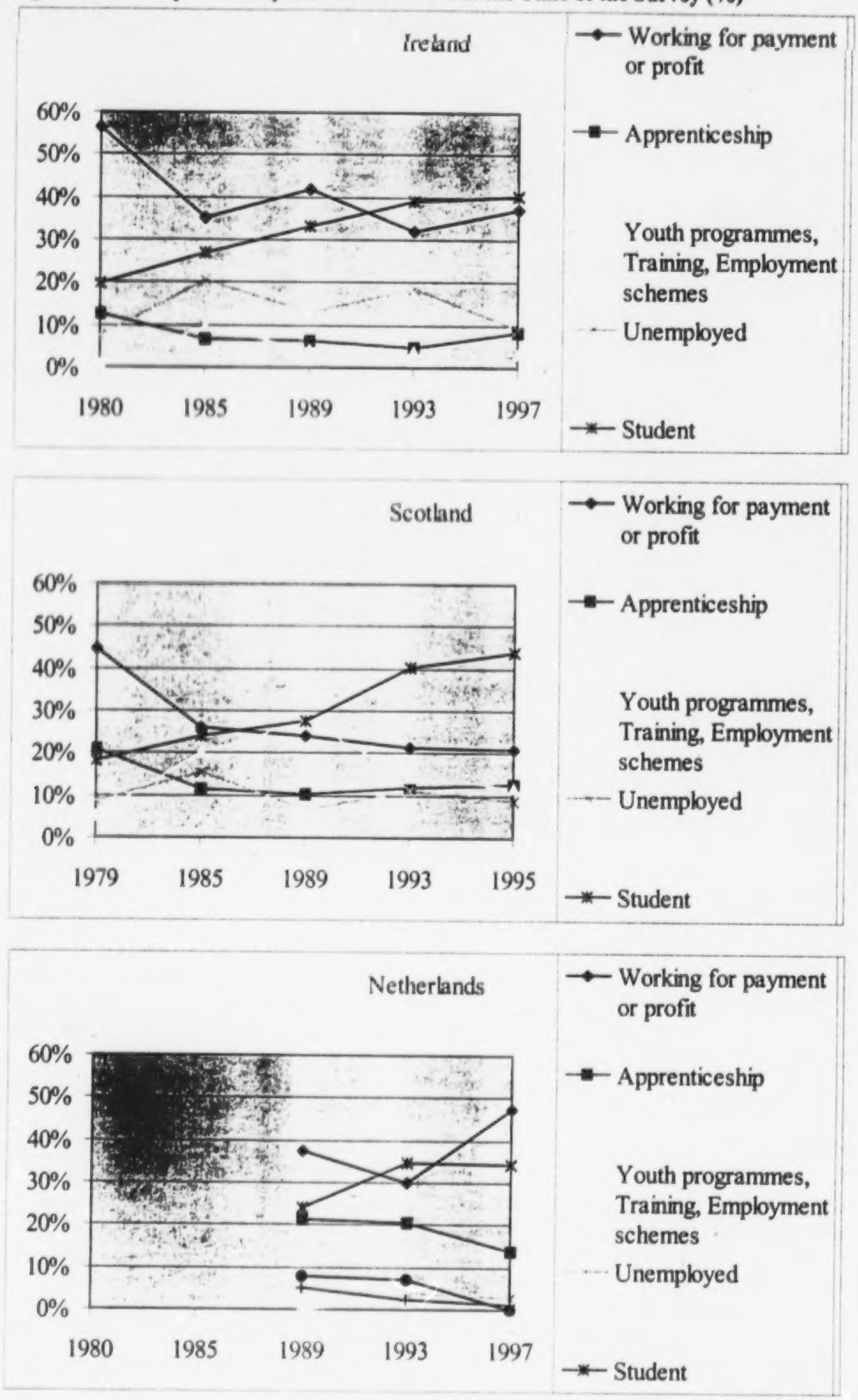

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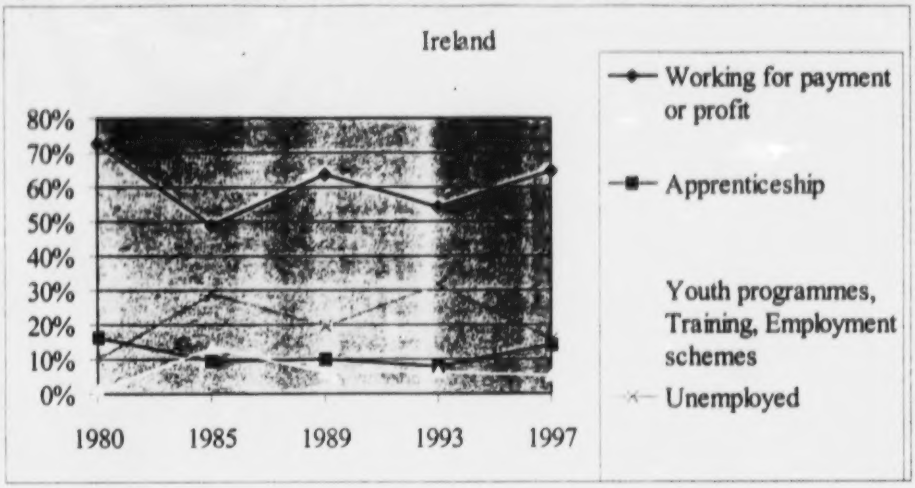
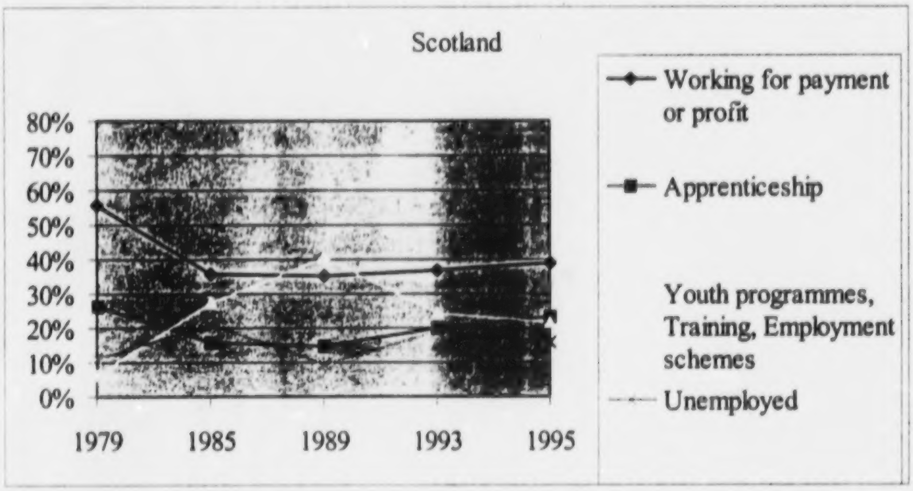
Figure 1b: Principal Activity of School Leavers at the Time of the Survey - Active Population





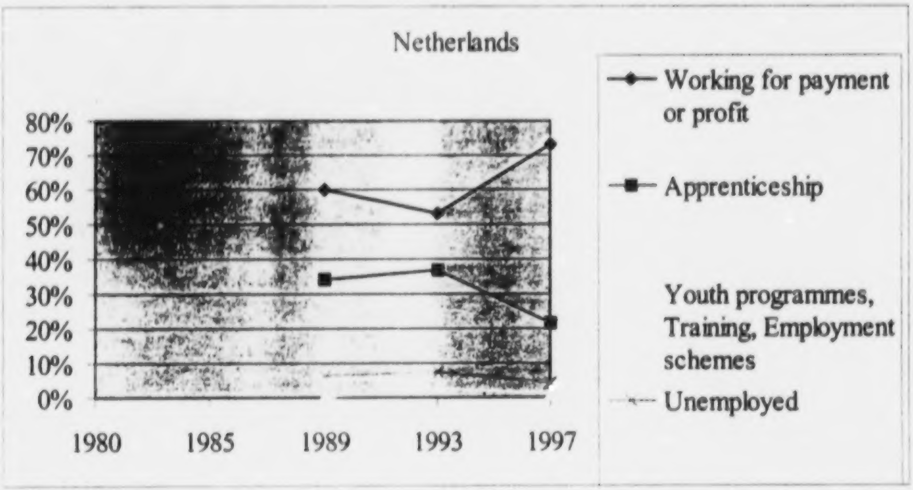


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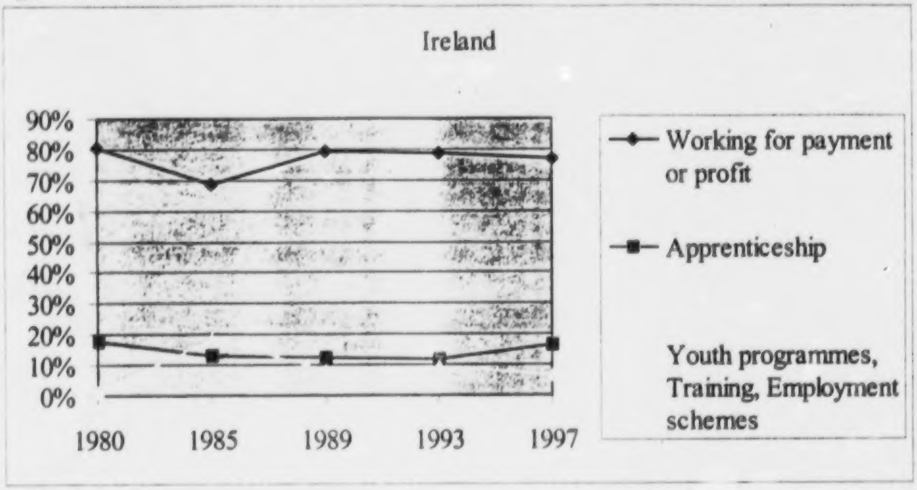
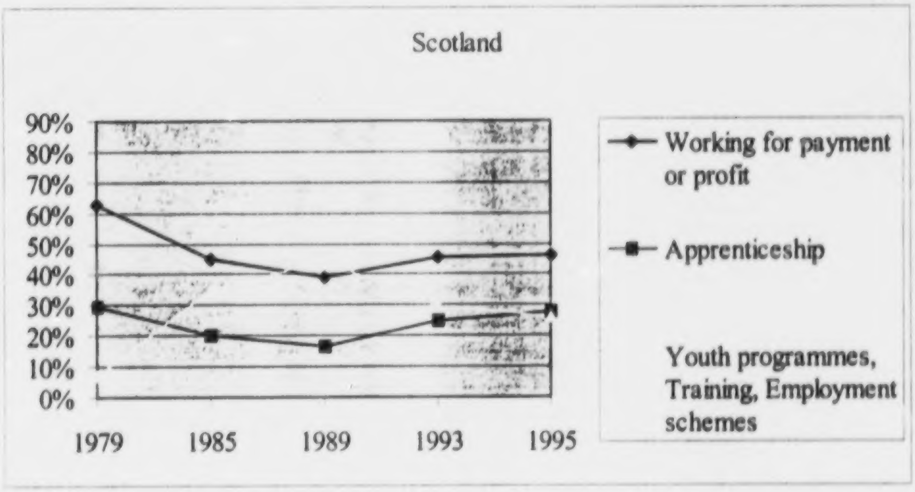
Figure 1c: Principal Activity of School Leavers at the Time of the Survey - Working Population





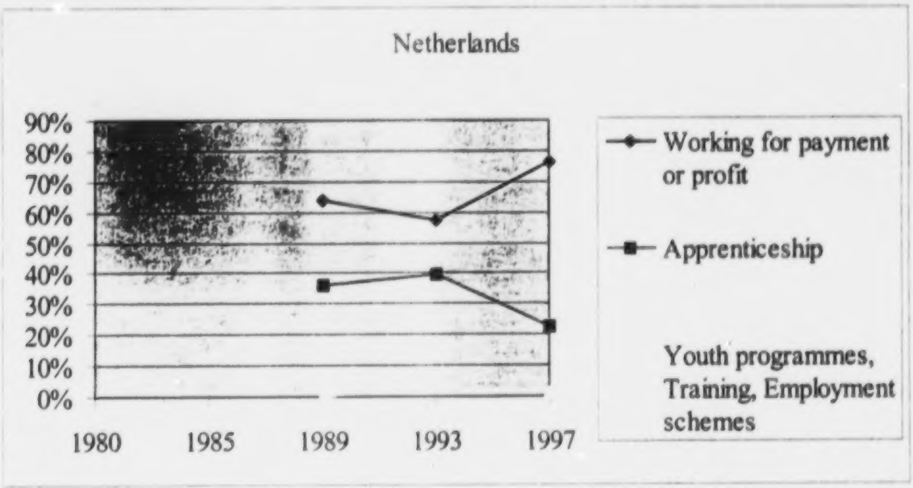


Figure 2: Social Class Position (EGP) of Apprentices (%)

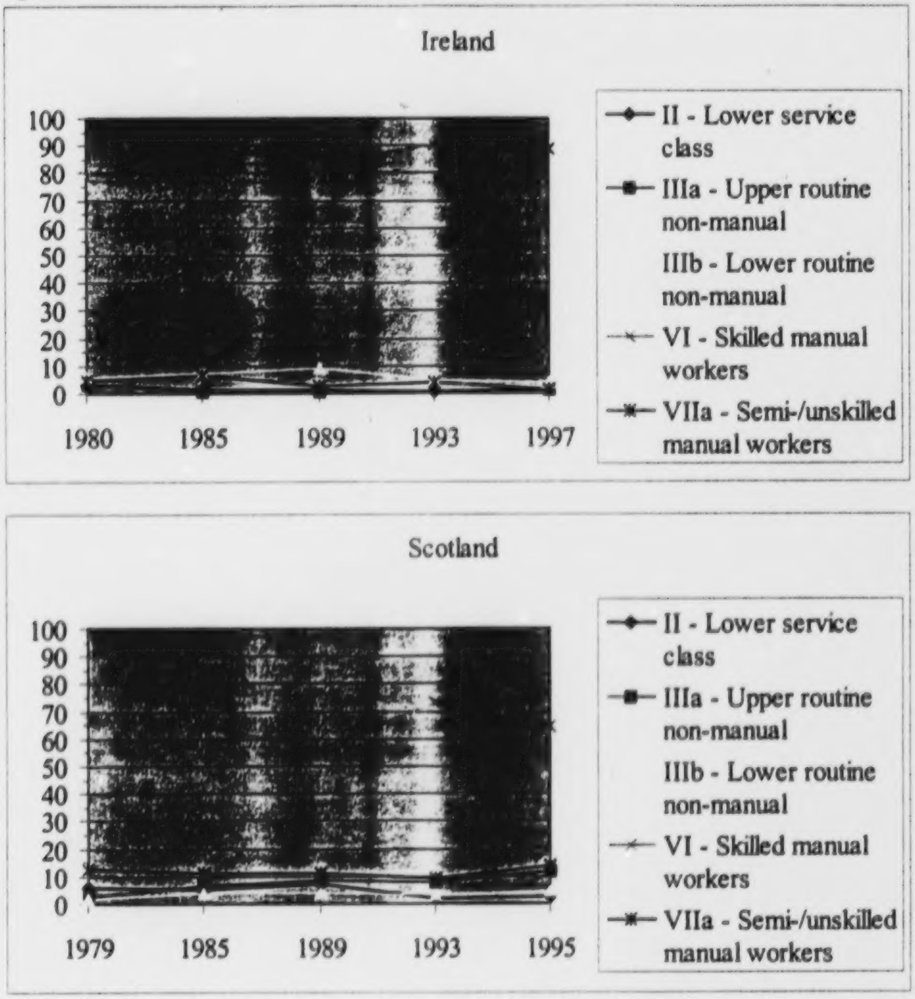
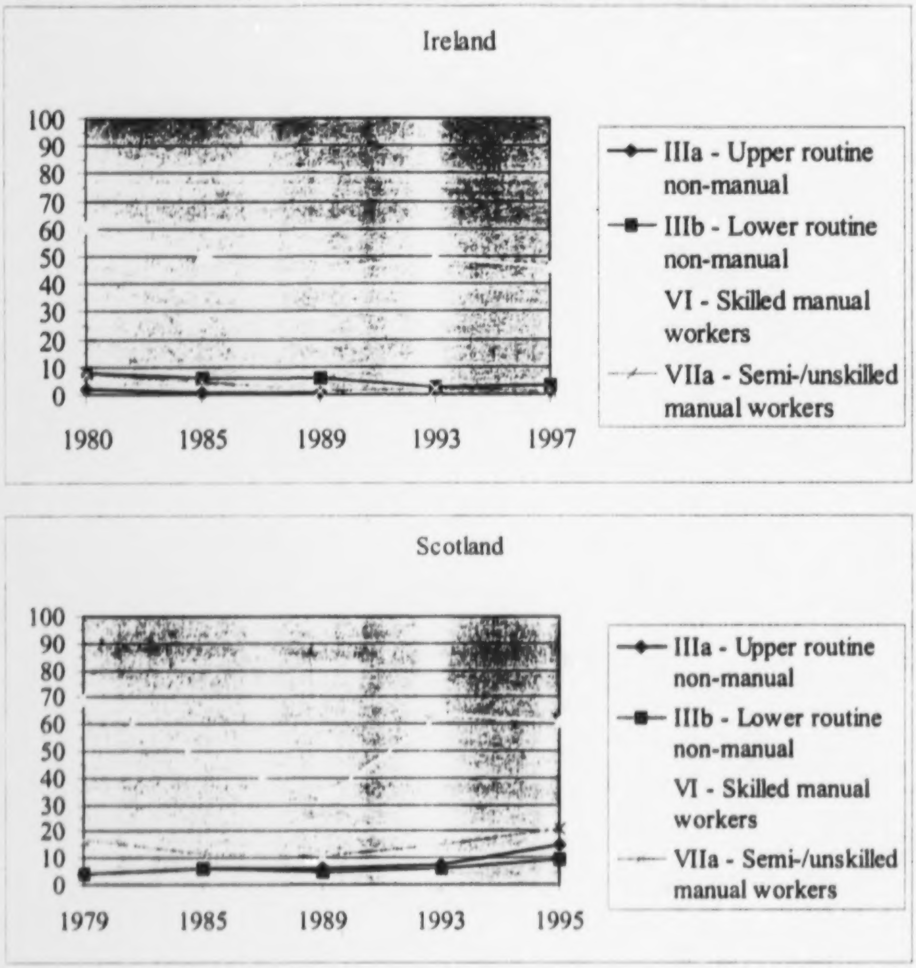


Figure 3: Proportion Apprentices of the Total Working Population by EGP class (%)



Total working population = school leavers 'working for payment or profit', apprentices or in 'youth programmes/training/employment schemes' at the time of the survey

Table 2: Social Class Position (EGP) of School Leavers by Principal Activity (%)

Ireland	1980		1985		1989		1993		1997	
EGP Scale of Social Class Position	Work	**Appr.**	Work	**Appr.**	Work	**Appr.**	Work	**Appr.**	Work	**Appr.**
I - Upper service class	1.2	**2.1**	0.8		0.6	**1.6**	0.3		0.3	**0.5**
II - Lower service class	8.3	**3.5**	7.8	**1.5**	6.3	**1.6**	4.8	**1.0**	5.7	**1.4**
IIIa - Upper routine non-manual	44.0	**3.5**	19.2	**0.7**	23.7	**0.8**	18.3		18.3	**1.4**
IIIb - Lower routine non-manual	16.2	**6.1**	23.0	**7.5**	24.0	**9.4**	30.0	**4.9**	27.3	**4.2**
IVa - Small proprietors	0.3	**0.5**	0.7	**0.7**	0.5	**0.8**	0.6		0.5	**0.5**
IVb - Self-employed	0.4		0.4		0.1		0.7		1.3	**0.5**
IVc - Farmers	0.5	**0.2**	0.6		0.1		0.1		0.2	
V - Lower technical / manual supervisory workers	0.8	**0.2**	0.3		0.6		0.3		1.5	**0.5**
VI - Skilled manual workers	11.4	**79.2**	15.5	**82.8**	15.6	**83.5**	13.2	**90.2**	22.6	**88.9**
VIIa - Semi-/unskilled manual workers	13.1	**4.4**	25.3	**6.7**	23.2	**2.4**	26.9	**3.9**	18.2	**1.4**
VIIb - Agricultural workers	3.7	**0.2**	6.4		5.2		4.7		3.9	**0.9**
Total	100.0	**100.0**	100.0	**100.0**	100.0	**100.0**	100.0	**100.0**	100.0	**100.0**
Count	1864	**427**	708	**134**	826	**127**	703	**102**	981	**216**

Scotland	1979			1985			1989			1993			1995		
EGP Scale of Social Class Position	Work	**Appr.**	*YPTES*	Work	**Appr.**	*YPTES*	Work	**Appr.**	*YPTES*	Work	**Appr.**	*YPTES*	Work	**Appr.**	*YPTES*
I - Upper service class	0.7	**2.6**		0.2	**0.3**		0.2	**5.0**	*1.4*	0.6	**2.1**	*1.2*	0.9	**1.5**	
II - Lower service class	4.5	**6.1**	*2.5*	4.5	**5.3**	*1.2*	4.9	**7.1**	*2.0*	2.2	**2.1**	*2.2*	2.9	**2.8**	*1.7*
IIIa - Upper routine non-manual	32.3	**2.8**	*13.9*	33.8	**6.5**	*22.7*	39.5	**8.7**	*19.6*	38.2	**7.6**	*32.2*	29.3	**11.8**	*30.6*
IIIb - Lower routine non-manual	17.8	**1.7**	*17.2*	18.1	**4.2**	*17.4*	15.6	**4.0**	*17.2*	23.5	**3.6**	*18.2*	20.2	**4.8**	*20.6*
IVa - Small proprietors															
IVb - Self-employed															
IVc - Farmers	0.3	**0.1**	*0.4*								**0.2**	*0.8*	0.4		*0.3*
V - Lower technical / manual supervisory workers	3.0	**3.6**	*1.2*	3.9	**5.2**	*0.7*	4.7	**5.2**	*1.2*	1.4	**1.9**	*0.8*	1.3		*1.1*
VI - Skilled manual workers	12.4	**67.3**	*23.8*	10.5	**64.5**	*34.9*	10.4	**56.5**	*36.4*	7.8	**72.9**	*25.5*	13.1	**64.5**	*25.6*
VIIa - Semi-/unskilled manual workers	26.4	**12.6**	*38.5*	26.0	**11.0**	*20.5*	21.8	**11.4**	*17.9*	23.6	**9.3**	*15.7*	27.7	**14.0**	*15.6*
VIIb - Agricultural workers	2.6	**3.2**	*2.5*	2.9	**2.9**	*2.6*	3.0	**2.1**	*4.2*	2.7	**0.2**	*3.3*	4.3	**0.8**	*4.7*
Total	100.0	**100.0**	*100.0*	100.0	**100.0**	*100.0*	100.0	**100.0**	*100.0*	100.0	**100.0**	*100.0*	100.0	**100.0**	*100.0*
Count	2513	**1221**	*244*	1291	**617**	*886*	1117	**481**	*1233*	631	**420**	*490*	559	**400**	*360*

Principal activity (at the time of the survey):
Work = 'working for payment or profit'
Appr. = apprentice
YPTES = in Youth Programme, Training, Employment Scheme

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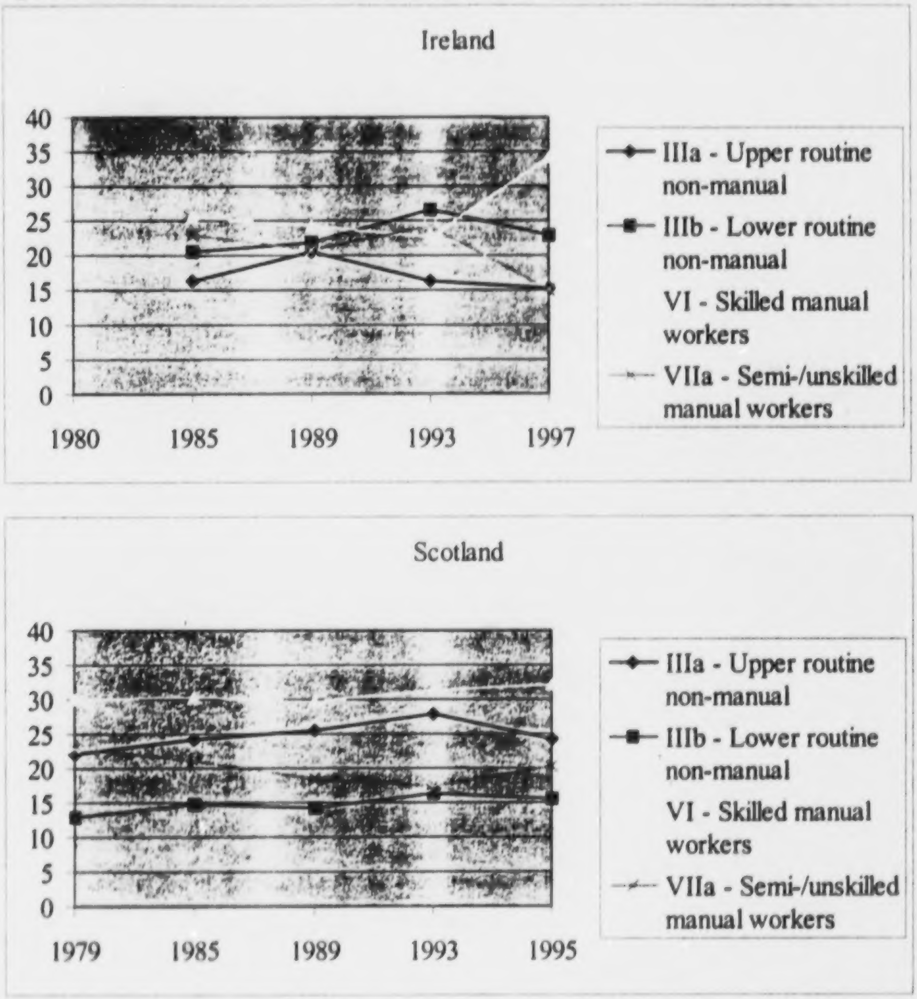
Figure 4: Distribution of Total Working Population over Social Class (EGP) (%)



Total working population = school leavers 'working for payment or profit', apprentices or in 'youth programmes/training/employment schemes' at the time of the survey

Table 3: Occupation (ISCO-88) of Apprentices (%)

	Ireland					Scotland					Netherlands		
	1980	1985	1989	1993	1997	1979	1985	1989	1993	1995	1989	1993	1997
1 - Legislators, senior officials and managers	1.4	0.7			1.4	0.2	0.3	1.2	0.5	1.2	0.3	0.1	0.1
2 - Professionals	3.3	0.7	2.4	1.0	1.4	4.2	2.8	8.3	2.1	2.7	0.8	1.5	0.1
3 - Technicians and associate professionals	1.4	0.7	1.6		1.8	6.5	4.1	5.6	4.3	4.0	24.0	19.8	15.0
4 - Clerks	4.0					3.7	7.6	6.4	6.9	11.2	2.0	3.3	4.4
5 - Service workers and market sales workers	12.4	22.2	20.5	12.7	14.7	8.2	18.5	16.0	18.3	18.7	21.4	23.2	23.0
6 - Skilled agricultural and fishery workers						1.3	1.3	1.5	2.4	2.0	0.2	0.2	5.0
7 - Craft and related trades workers	73.0	71.1	72.4	85.3	77.1	68.1	59.2	52.4	60.5	55.2	40.9	41.7	32.5
8 - Plant and machine operators and assemblers	3.8	1.5	0.8	1.0	1.4	3.9	2.6	4.4	3.3	3.0	3.3	4.4	6.8
9 - Elementary occupations	0.7	3.0	2.4		2.3	3.9	3.7	4.2	1.7	2.0	7.1	5.9	13.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Count	426	135	127	102	218	1219	617	481	420	402	1715	2619	1377

Table 4: Proportion Apprentices of the Total Working Population by ISCO category (%)

	Ireland						Scotland						Netherlands			
						*% in class**						*% in class**				*% in cl**
	1980	1985	1989	1993	1997	*mean*	1979	1985	1989	1993	1995	*mean*	1989	1993	1997	*mean*
1 - Legislators, senior officials and managers	20.0	8.3			14.3	*1.2*	10.7	10.5	21.4	5.9	31.3	*1.2*	9.3	2.0	0.9	*1.8*
2 - Professionals	8.4	1.9	6.0	3.3	6.4	*5.2*	33.6	28.3	40.4	33.3	55.0	*2.5*	6.2	27.1	2.7	*1.8*
3 - Technicians and associate professionals	17.1	5.0	8.7		12.1	***2.1***	52.3	32.9	27.8	21.4	22.2	***4.2***	19.3	35.8	17.2	***21.8***
4 - Clerks	1.9					***20.4***	4.7	6.3	3.9	6.7	13.6	***26.4***	6.3	6.8	7.1	***12.3***
5 - Service workers and market sales workers	14.2	12.8	9.6	4.6	9.1	***26.8***	14.0	18.9	13.3	24.8	26.4	***20.4***	18.1	31.8	20.9	***24.9***
6 - Skilled agricultural and fishery workers						*0.7*	27.6	18.2	11.1	31.3	21.1	*2.1*	18.8	66.7	19.1	*2.0*
7 - Craft and related trades workers	57.3	48.0	47.2	50.9	45.8	***23.5***	65.2	44.3	31.9	57.9	60.7	***29.1***	46.9	59.6	41.8	***19.9***
8 - Plant and machine operarors and assemblers	16.0	6.9	1.9	2.2	4.3	***4.8***	21.2	11.9	17.5	23.0	15.0	***5.0***	19.4	36.6	18.2	***5.3***
9 - Elementary occupations	1.6	2.2	1.7		3.3	***15.4***	11.2	8.1	7.7	5.9	7.1	***9.2***	16.7	16.4	29.6	***10.4***
Total	18.4	15.5	13.1	12.5	17.8	*100.0*	30.7	22.1	17.0	27.3	30.5	*100.0*	22.8	32.9	21.6	*100.0*
n (working, apprentice, in programmes and schemes)	2319	869	967	819	1220		3975	2793	2830	1538	1318		7528	7954	6378	

*% in class mean: mean of the total size of the ISCO class (the % of the total working population that falls in the ISCO class) (see table 5)

Total working population = school leavers 'working for payment or profit', apprentices or in 'youth programmes/training/employment schemes' at the time of the survey

Table 5: Distribution of the Total Working Population over ISCO categories (%)

	Ireland						Scotland						Netherlands			
	1980	1985	1989	1993	1997	mean	1979	1985	1989	1993	1995	mean	1989	1993	1997	mean
1 - Legislators, senior officials and managers	1.3	1.3	0.9	0.9	1.7	1.2	0.7	0.7	1.0	2.2	1.2	1.2	0.7	1.2	3.4	1.8
2 - Professionals	7.2	6.2	5.1	3.7	3.8	5.2	3.8	2.1	3.5	1.7	1.4	2.5	3.0	1.8	0.6	1.8
3 - Technicians and associate professionals	1.5	2.3	2.4	1.3	2.8	2.1	3.8	2.7	3.4	5.4	5.4	4.2	28.3	18.2	18.7	21.8
4 - Clerks	37.6	15.2	19.1	15.3	14.7	20.4	23.9	26.8	28.0	28.2	25.1	26.4	7.4	15.9	13.5	12.3
5 - Service workers and market sales workers	16.0	26.9	27.9	34.3	28.7	26.8	18.0	21.6	20.5	20.2	21.5	20.4	26.9	24.0	23.7	24.9
6 - Skilled agricultural and fishery workers	0.5	1.2	0.7	0.9	0.2	0.7	1.5	1.6	2.2	2.1	2.9	2.1	0.2	0.1	5.7	2.0
7 - Craft and related trades workers	23.5	23.0	20.2	20.9	30.0	23.5	32.1	29.5	27.9	28.5	27.8	29.1	19.9	23.0	16.8	19.9
8 - Plant and machine operarors and assemblers	4.3	3.3	5.4	5.5	5.6	4.8	5.7	4.8	4.2	3.9	6.0	5.0	3.9	4.0	8.0	5.3
9 - Elementary occupations	8.2	20.6	18.3	17.3	12.6	15.4	10.5	10.2	9.2	7.7	8.6	9.2	9.7	11.8	9.6	10.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
n	2319	869	967	819	1220		3975	2793	2830	1538	1318		7528	7954	6378	

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School Effects on Youth Transitions in Ireland, Scotland and the Netherlands

Cristina Iannelli

Centre for Educational Sociology (CES)
University of Edinburgh
Scotland

E-mail: iannelli@des.education.ed.ac.uk

1. Introduction

It is widely recognised that nowadays youth transitions have become more differentiated and complex but also more uncertain (OECD, 1999). In contrast to the past, for many students the moment of leaving school does not correspond to the starting point of their working career. There are at least three main reasons: (1) an increasing number of secondary school leavers choose to continue in education at tertiary level; (2) entering the labour market has become more difficult and a higher number of young people experience a period of unemployment before finding a job; (3) a reduction in the number of jobs requiring only basic education which leads less qualified people to attend some vocational training programmes before entering the labour market.

Two sets of factors are commonly regarded as important in the explanation of young people's decisions to continue in education or enter the labour market: individual and institutional factors (both educational and labour market characteristics). Many studies have focused on the first set of factors. There is an extensive literature which analyses the effect of ascriptive factors, such as gender, social class and ethnic group, on education and labour market outcomes. Among the other individual factors some theories (modernisation theories and meritocracy theories) have emphasised the increased importance in modern societies of achieved factors - mainly measured by educational achievement - on pupils' educational and occupational destinations. Other research has focused on the second set of factors (the institutional ones) highlighting the mechanisms at work in the labour market and within the educational system which influence pupils' educational and occupational destinations. According to this institutionalist perspective, the organisation, the procedures and the content of the school system, as well as employment opportunities, rewards to different educational qualifications and labour market structure are all very important factors in the explanation of the distribution of educational qualifications and occupational allocation.

Many cross-country comparative studies have been carried out to analyse whether countries vary in the way individual and institutional factors affect youth transition outcomes. They have mainly concentrated on educational transitions and the transition from school to work. Shavit and Blossfeld (1993) have analysed data from 13 countries and have concluded that, even though in recent decades there has been a general increase in the educational attainment levels in all modern societies, the association between social origins and the chances of making various educational transitions has not declined.[1] Other comparative studies on the transition from school to work (Maurice, Sellier and Silvestre, 1986; König and Müller, 1986; Allmendinger, 1989; Shavit and Muller 1998; Stern and Wagner, 1999) have concluded that the transition from school to work is shaped by different institutional arrangements (pathways, curriculum frameworks, qualification systems, training schemes, labour market structures and regulations). Some countries and their institutional arrangements appear to be more successful in keeping pupils longer in education – such as Norway, Sweden and Belgium - while others appear to be more successful in facilitating entry into the labour market - such as Germany, Austria and Denmark, thanks to their dual system, or the Netherlands, with its strong emphasis on very specialised school-based vocational education.

In their empirical work, youth transition studies have used regression methods and restricted the analysis to a single level - the individual (micro) or the aggregate (macro) level. However, these approaches often fail to reveal relationships between individual and structural (or contextual) factors. This is because they do not take into account that individuals are clustered into contextual groups, among them the school context (Rice and Leyland, 1996).

Many empirical studies on school effectiveness have demonstrated the importance of the type of school attended for pupils' educational outcomes. They have used multilevel methods of analysis to take into account the hierarchical structure of the student population (e.g. pupils nested within classroom and within schools). This technique of analysis has been demonstrated to have substantive advantages in comparison with ordinary regression analysis. Paterson (1991b) underlines two main improvements: one substantial and the other technical. This type of analysis recognises that pupils belong to different groups thus taking into account that pupils are subject to the influence of the grouping. Multilevel modelling considers pupils as clustered within schools so assuming that "the individual observations are not completely independent" (Hox, 1995). This allows the study of two variance components: the within-school and the between-school component. From a technical point of view multilevel modelling also gives a better computation of the standard errors of the estimations (Paterson, 1991b pp.17-18).

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[1] The only exceptions are Sweden and the Netherlands, in which the equalisation of socio-economic conditions (probably due to a comprehensive welfare state) has brought about an equalisation of

School effectiveness studies mainly focus on students' academic performance or school career (Mortimore et al., 1988; Raudenbush and Willms, 1991; Paterson and Raffe, 1995; Smyth, 1999; Tinklin, 2000; Croxford, Raffe and Brannen, 2000) while they pay little attention to non-academic outcomes among different groups of pupils.[2] It remains unclear whether the school effect goes beyond school academic performance, influencing other types of pupil results, such as labour market destinations. Recently Van der Velden and Wolbers (2000) have carried out a study on the effect of educational institutions on labour market outcomes. They have found that the characteristics of schools - their specificity, selectivity and level - significantly contribute to explaining differences in school leavers' labour market outcomes.[3]

The present paper intends to improve upon the previous research on youth transitions in two ways: (1) through the study of school effects on school leavers' destinations (further education, employment, unemployment, apprenticeship and youth programmes) and (2) through the use of multilevel modelling to take into account pupils' grouping within schools. Moreover, it examines pupils' educational and labour market outcomes in three countries, Ireland, Scotland and the Netherlands. The aim is to discover the extent to which variations in school leavers' destinations within these three countries are accounted for by the characteristics of the school attended, after controlling for individual characteristics.

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educational opportunities.

[2] There are some exceptions. To mention one of them Paterson (1991a) *An Evaluation of the Scottish Pilot Projects in the Technical and Vocational Education Initiative*. Edinburgh: Centre for Educational Sociology.

[3] The educational outcomes studied by Van der Velden and Wolbers are: the chances of gaining a job, of acquiring a permanent job, of having a good match between the education level acquired and the type of job gained, and wage differences.

2. Research questions

In this paper we try to answer the following general questions:

Does the school attended significantly affect students' destinations? How does this school effect vary across Ireland, the Netherlands and Scotland?

A subset of questions is related to the factors which account for these differences.

To what extent can between-school variation in school leavers' destinations within Ireland, Scotland and the Netherlands be accounted for by individual characteristics?

To what extent can between-school variation be explained by school types either in terms of structural characteristics of the school (Rumberger and Thomas, 2000) or in terms of school composition - social composition and average student achievement within the school - in each country?

The effect of the school is described in terms of the amount of between-school variation in pupils' destinations which is explained by the characteristics of the school. Multilevel modelling allows us to compare the strength of school effects in general, with those effects due to individual factors. Unlike many school effectiveness studies, this paper does not aim to assess the effectiveness of different types of school – such as private and public schools - on pupils' destinations in the three countries under examination. Since these distinctions between schools have different meanings in each country (see next section), direct cross-country comparisons about the importance of attending one type of school instead of another cannot be drawn. However, the present study can throw light upon the importance of school characteristics in explaining variations in school leavers' destinations in the three countries under examination. Apart from school structural characteristics, social and academic composition of the school will be analysed. Indeed, students' characteristics have been found to influence students' achievement not only at the individual level but also at the aggregate level (Willms, 1986; Gamoran, 1992). More advantaged social intakes as well as a higher average academic achievement in the school tend to have a positive effect on pupils' outcomes.

3. School characteristics in Ireland, the Netherlands and Scotland

The analysis of Ireland, Scotland and the Netherlands is particularly interesting because of the different nature of the schools prevalent in the three countries. In this paper three main school distinctions will be introduced in the analyses: (1) the type of programme provided by the school - vocational, general or a combination of vocational and general subjects – (2) the private or public nature; (3) the denominational nature - Catholic, Protestant, interdenominational and non-denominational. These distinctions refer to the structural characteristics of the schools. As previously mentioned, they have quite different meanings in each country which makes it impossible directly to compare their effect. This section summarises the meaning of these distinctions in Ireland, the Netherlands and Scotland (for further details see appendix 1)

Dutch schools are very differentiated in the curriculum offered but differences related to other characteristics - such as denomination or private/public types of school - are much less significant. Traditionally general and vocational programmes are taught in separate schools. Recently there has been a process of unification of smaller school units into larger school units which has led to the formation of "combined" schools, offering both general and vocational programmes. However, in contrast to Ireland and Scotland, even within these "combined" schools there are distinct vocational and general programmes.

Ireland has a less differentiated system than the Netherlands in terms of curriculum but has a strong religious (and private) component in the ownership and management of schools. Private schools are essentially denominational. They are privately owned by religious orders, with a net prevalence of the Catholic religious orders. Schools providing general programmes ("secondary schools") are totally under the ownership and administrative control of the churches (Catholic and Protestant). Vocational and comprehensive schools are, instead, characterised by a more balanced distribution of power between church and state (from which their interdenominational character derives).

Scotland presents the least differentiated school system in relation to the curriculum (all schools offer the possibility of combining vocational and general subjects) but the private ("independent") schools differentiate themselves from the public ones, both denominational and non-denominational, for their selective character. Private schools are privately owned and fee-paying schools. They often have admission tests and provide a curriculum with a stronger academic emphasis.

Summarising, the main source of school differentiation in the three countries are: the curriculum provided by the school in the Netherlands, the religious or interdenominational nature of the school (which is largely related to the private/public and general/vocational distinction) in Ireland; the private or public ownership of the school in Scotland. Along these distinctions we expect to find major country differences in the effect of school characteristics on students' outcomes.

4. Data, methodology and variables

The data used in this study are drawn from a cross-national database of secondary school-leavers (both from lower-secondary and upper-secondary schools),[4] constructed within the framework of the CATEWE project. School leavers were surveyed between one year and one year and a half after leaving school and information about their actual main activity was collected.[5] Unlike others, this dataset contains information about the school attended by the pupils for three of the five countries included in the dataset, i.e. Ireland, Scotland and the Netherlands.[6] Thus, the data allow the analysis of groups of students coming from the same school and the measurement of the effect of attending different schools on pupils' destinations in the three countries. Due to different survey designs and definitions of school applied in the three countries, in our dataset the within-school sample size varies quite a lot among Ireland, Scotland and the Netherlands (see table 1a).[7] The average number of students per school is much larger in the Netherlands than in Ireland and Scotland. This suggests caution in drawing conclusions about the existence of significant differences across country in the between-school variation in pupils' destinations. Some deviance tests have been carried out to examine whether it is possible to find significant country differences in the variance component at the school level. Only in a few transitions have country differences emerged as clearly significant. Details of these tests and of other investigations are discussed in appendix 2.

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[4] In the Netherlands upper-secondary leavers also include students from MBO, vocational tracks lasting two, three or four years; in Ireland they include students from PLC (Post-Leaving Certificate courses) vocational programmes lasting from one to three years and attended by those who have already acquired the Leaving Certificate. In Scotland, students from Further Education (FE) courses, who can be compared to the MBO students in the Netherlands and the PLC students in Ireland, are not included among upper-secondary leavers. FE counts as a destination in our data, within the category post-school education.

[5] The young people surveyed left school in 1995-96 in Ireland and the Netherlands and in 1993-94 in Scotland.

[6] Due to differences in survey purposes and designs in the other two countries, France and Sweden, information about the schools which students attended was not collected.

[7] Different methods of sample selection have been applied in the three countries. In the Netherlands within each selected school 100% of the pupils have been surveyed. Instead in the other two countries a random sample of pupils has been surveyed within schools. Moreover, in the Netherlands the school is defined by its administrative centre which means that in many cases more than one school unit can

As previously mentioned, the methodology used in the following analyses is multilevel modelling. Two levels of analysis are distinguished: the individual (the lower level) and the school level (the higher level). Multilevel modelling estimates separate equations for each school so separating the effect of individual and school characteristics (Paterson, 1991b). Thus, the school effect is described in terms of the amount of between-school variation in pupils' destinations which is explained by the school characteristics.

The dependent variables are constructed as binary alternatives. Pupils' most common transitions after leaving school are (1) continuing in education and (2) gaining a job. These two transitions will be studied in the first part of the empirical analysis. However, as previously mentioned there are other situations which young people may experience nowadays, that is (3) unemployment and (4) vocational training which can take the form of an apprenticeship programme or youth programme. The chances of being in education, in employment, unemployment, in a youth programme and in apprenticeship are measured using binomial logit models. In each case the analysis compares the chances of being in the given status with the chances of being in all of the other statuses combined.

All transitions are analysed in light of country differences. Due to the lack of information on individuals' social background and grades in the Dutch sample we have conducted two separate analyses: the first more restricted (that is a smaller number of variables at individual level will be included) in which the data of all three countries are analysed; the second more detailed in which only Ireland and Scotland are included in the analysis.

The independent variables at the individual level are: country of origin, sex, level of leaving school (lower or upper secondary level) and whether students passed or failed school exams. In the Dutch sample pupils are defined as having failed their school

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compose the "school" in administrative sense. Lastly, in the sample there is an over-representation of examination when they have attended the last year of lower-secondary school (VBO or MAVO) or upper-secondary school (HAVO, VWO or MBO) without gaining the final diploma or certificate.[8] In the Irish data they have failed when they achieved a D ("pass") grade in fewer than 5 Junior Certificate subjects (at lower-secondary level) or fewer than 5 Leaving Certificate subjects (at upper-secondary level). In the Scottish data they left the compulsory stage or the post-compulsory level without achieving any "passes" (i.e. grades 1-3 at Standard grade at lower-secondary education and Highers at upper-secondary school). The type of programme (vocational or general) from which pupils left school can be considered both among the individual characteristics and among school characteristics. We have included this variable at the individual level but we have considered it as an intermediate variable, between individual and school characteristics. This is because school is here regarded as an institution and the type of programme does not always coincide with the institution providing it (e.g. vocational programmes taught in vocational schools). Some schools offer only one kind of programme but other schools offer a choice of programmes (both vocational and general). Thus, two models are presented: one which includes all the main individual characteristics, with the exclusion of curriculum type, and another which includes also curriculum type. In this way it is possible to measure separately the part of the school variance which is explained by curriculum type, after having controlled for the other individual characteristics. The definition of curriculum type is based on the type of programme in the Netherlands: VBO and MBO programmes are vocational while MAVO and HAVO and VWO programmes are general. Type of curriculum is defined by the number of vocational subjects taken (e.g. Engineering, Construction, Technology) or the acquisition of a Post-Leaving Certificate (PLC) in Ireland. In Scotland this distinction is made according to the number of Highers (general qualifications) and modules (mainly vocational) achieved.[9] Finally, in the analysis which includes only Ireland and Scotland variables measuring parents' employment and occupational status and pupils' grades are also introduced.

All of these variables are coded as dummies, except for grades which are introduced as an ordered scale. Since the way of measuring grades is different in each country this scale has been standardised using z-scores and the interaction effects between countries

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MBO schools (vocational schools), which are bigger than the other upper-secondary schools.

[8] Structural reforms of vocational education have been recently implemented in the Netherlands. In this paper school distinctions refer to the old educational structure which was in use in 1996, the date of the survey. See Brandsma (2000) for an account of the most recent reforms.

and grades have been included. Even so constructed this scale does not allow a direct comparison of the effect of grades in Ireland and Scotland. However, the main purpose of the analysis is to compare the extent to which grades explain the between-school variance within each country. To avoid an excessive reduction of cases and to preserve the validity of the analysis, missing values are kept in the analysis and introduced as dummies among the independent variables.

The independent variables at the school level are of two types: (1) structural characteristics which include the type of curriculum offered by the schools – vocational, general or a combination of vocational and general subjects - public/private and denominational/non-denominational nature of school; and (2) compositional characteristics, i.e. social composition of the school and a measure of the average educational achievement within the school. A variable which distinguishes between schools offering only one type of programme (vocational or general) and a combination of them has been introduced in the analysis. The aim is to verify whether the institution providing a certain type of curriculum has a significant effect on pupils' destinations, after controlling for the type of programme measured at the individual level. Social composition and average academic achievement at school level are included only in the second more detailed analysis. Social composition of the school is measured by the proportion of pupils with employed parents and the proportion of pupils with parents in Class I (i.e. service class and routine non-manual workers) within each school. Average academic achievement is measured as pupils' average grades achieved at the school level.

Four main models are estimated in the analysis of various youth transitions. The first is the null model (or intercept-only model) in which the variance in pupils' destinations is decomposed into two independent components, the variance at the individual level and the variance at school level. Because the dependent variable is dichotomous (Hox, 1995; Van der Velden and Wolbers, 2000) the variance at the individual level is set equal to 1. Thus, it is not possible to study the relationship between these two variances (individual and school level). However model 0 is here used as a baseline model to examine changes in between-school variance when the individual and school characteristics are introduced in the model. Because the school effect on pupils' outcomes is expected to differ within each country the intercept coefficient for the variable "country" is allowed

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[9] For further details on the construction of the variable "curriculum type" see Iannelli and Raffe (2000).

to vary across schools.[10] In this way it is possible to measure separate variance components at school level for each country. In the second model, model 1, all the lower level explanatory variables (except for the curriculum type) - the individual characteristics - are introduced to study whether the between-school variance can be attributed to the characteristics of the pupils attending the schools. The interaction effects between "country" and individual characteristics are also introduced to study which individual factors are most influential in determining school-leavers' destinations in the three countries. The inclusion in the model of these interaction effects is very important in the analysis because the Dutch sample is particularly large and may tend to drive the results of the analysis. As previously mentioned in a separate model, model 2, curriculum type is also introduced among the explanatory variables. Changes in the variance between schools are further analysed in model 3 when the higher level explanatory variables - the school characteristics - are added to the individual explanatory variables.[11] These four models are presented only for the first transition from school to further education. For the other transitions only the last model (model 3) will be shown and changes in the between-school variance summarised in table 4. The same applies to the more detailed analysis which includes only Ireland and Scotland. A full description of the modelling is given only for the first transition.

5. Description of the sample

Table 1 presents the distribution of individual and school characteristics for each country. Country differences are quite sharp. Regarding the individual characteristics, in all three countries the majority of the sample left school at upper-secondary level, however Ireland has the highest percentage, almost 80%, and Scotland the lowest, 62%. More than 80% of the school leavers in Scotland attended a general programme, 67% in Ireland, while only 34% attended a general programme in the Netherlands. The lowest percentage of young people who left education from upper- secondary education and the largest percentage of them who attended general tracks in Scotland can be partly attribute to a different sample design. In the Scottish sample leavers from FE colleges (vocationally-oriented colleges) are not included among the upper-secondary school leavers. FE colleges are counted as destinations in the survey while in the other two countries all the school leavers from vocational tracks (including those who attended

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[10] Technically the intercept coefficient for the variable "country" is assumed to be random across schools.

MBO and PLC courses) are included in the sample (see note 3). The absence of students who attended FE colleges from our data should not produce substantial biases in the results because these students represent a minority among upper-secondary school leavers. However, this data constraint may cause a reduction in the between-school variance estimated in Scotland since FE colleges are more likely to be different from the other schools both in student intake and in students' destinations.[12]

A larger proportion of students "failed" their examinations in Scotland than elsewhere. Regarding pupils' social background, in Scotland a larger proportion of school leavers had a mother employed and in service class or routine non-manual work than in Ireland. Less sharp differences emerge in the employment and occupational status of pupils' fathers in Ireland and Scotland. However, by and large in Ireland a higher proportion of students have a father with a lower occupational status.

Regarding school characteristics, in Ireland and the Netherlands only a minority of pupils attended schools offering the possibility to combine vocational and general subjects. Scotland is the only country in our sample in which all schools offer this opportunity. In the Netherlands the majority of school leavers left from vocational schools (63%) and in Ireland from general schools (49%). In Scotland almost all students attended schools which are publicly owned (95%); in the Netherlands they primarily went to private schools (70%) and in Ireland they are equally distributed between public and private schools. In our sample the majority of school leavers in Scotland enrolled in non-denominational schools (89%) while in Ireland they mainly enrolled in interdenominational (51%) and Catholic schools (47%). In the Netherlands young people attended a much greater variety of schools, but the majority of them went to non-denominational or interdenominational schools.

Summarising, it emerges that Scotland is the country which shows more homogeneity in the type of schools attended by school leavers: the great majority of students attended public and non-denominational schools providing both general and vocational subjects. The other two countries have a more variegated situation in which students are enrolled in schools which offer distinct types of programmes and which are of a different nature.

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[11] Other models which measure the interaction effects between "country" and each of the school characteristics have been tested. Only the significant interaction effects are presented in model 3.

[12] However nowadays, following the general trend of increasing numbers continuing education at tertiary level, a large part of students attending these types of colleges tend to enter tertiary education.

The distribution of school-leavers' main activity at the time of the survey, around one year after leaving school, appears very similar in Ireland and the Netherlands (table1b). In these two countries the majority of school-leavers' (respectively 46% and 44%) entered the labour market,[13] another 40-42 per cent are still in education and between 11 and 13 per cent are in training. The only remarkable difference is in the percentage of those who are unemployed, 9% in Ireland in contrast to 2.2% in the Netherlands. The situation in Scotland looks very different from the other two countries. This is due to two main reasons: the already mentioned different survey design of the Scottish data collection and the larger proportion of school-leavers involved in youth programmes. The fact that FE colleges are counted as destinations in the survey tends to overestimate the proportion of students who are still in education in Scotland. On the other hand, the lower proportion of people in the labour force in Scotland can also be attributed to the higher proportion of school leavers involved in training programmes.[14]

6. Continuing in education

6.1 The effect of individual and school structural characteristics

The first youth transition analysed in this paper is the transition from school to further education (table 2). Model 0 (bottom lines) shows that in all countries under examination there are significant differences between schools in pupils' chances of continuing in education. The results of the likelihood tests indicate that there is a significant difference in the variance component at the school level between the Netherlands and Scotland and between Scotland and Ireland (see appendix 2). The between-school variance is significantly higher in the Netherlands and Ireland than in Scotland. Which factors can account for the school variance found in the three countries?

The coefficients presented in model 1 (table 2) measure the effect of individual characteristics on the chances of continuing in education. All individual characteristics are significant. The model shows that leaving from upper-secondary level and having succeeded in school examinations have a strong positive effect on pupils' chances of continuing in education in all the three countries. However, there are country differences in the effect of gender: being a woman increases the chances of continuing in education in Ireland and Scotland while the contrary occurs in the Netherlands.

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[13] The status of being in the labour force is here defined excluding apprenticeship and training programmes. It refers only to individuals who are employed or unemployed.

After controlling for these individual characteristics the between-school variance remains significant but drops in all three countries. This testifies that the variance between schools can be partly explained by the characteristics of pupils attending them. The extent to which the between-school variance can be accounted for by pupils' characteristics varies greatly across countries. Table 4 summarises the portion of the between-school variance which can be attributed to the effect of individual and school characteristics. In Scotland 53% of the between-school variance can be explained by individual characteristics, in Ireland 31% and in the Netherlands 17%.

In model 2 (table 2) the curriculum type attended by school leavers is introduced in the analysis. According to our expectations, attending general programmes has a strong positive effect on pupils' chances of continuing in education but this effect is much stronger in the Netherlands than elsewhere. The inclusion of curriculum type in the model reduces the between-school variance by another 77% in the Netherlands and 27% in Ireland (table 4). Thus, after controlling for this variable the between-school variance in the Netherlands becomes very low.

What is the effect of school structural characteristics on pupils' propensity to continue in education in each country? As previously explained it is much more difficult to interpret the coefficients related to school characteristics because of the different meanings attached to these distinctions in each country. However, the purpose of the analysis is to study the contribution of the school characteristics in explaining school variations in pupils' destinations within each country. The last model intends to answer this question. The results of model 3 show that, after controlling for individual characteristics, the inclusion of school characteristics reduces very little the between-school variance in the Netherlands and Scotland while it reduces by an extra 16% the variance in Ireland (table 4). Interestingly, after controlling for the type of programme pupils have attended, the classification of school according to the type of curriculum

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[14] Further details about pupils' distribution across different statuses by gender, social class and other school leavers' characteristics can be found in CATEWE (2000) *A Comparative Analysis of Transitions*

offered (general, vocational or a combination of vocational and general subjects) does not add anything more to the analysis. This means that whether a general programme has been attended in a general, comprehensive or in a mainly vocational type of school (which sometimes is the case in Ireland) does not matter; it is the programme in itself which makes the difference. Two country interaction effects are significant: the attendance of public schools in Scotland reduces the chances of continuing in education while attending a Protestant school in Ireland increases the same chances.

To conclude: the between-school variance in students' likelihood of continuing in education is significant in the three countries (model 0). Moreover, it is significantly higher in the Netherlands and Ireland than in Scotland. The factors which account for this variance within each country are different. In the Netherlands the educational system is strongly differentiated in relation to the type of curriculum provided by different schools. Thus, after controlling for the type of programme attended by school leavers the between-school variance drops dramatically. On the contrary Scotland has the least differentiated educational system (comprehensive, mainly public and non-denominational) and the effect of curriculum type as well as of school structural characteristics is much less important in explaining school variations than elsewhere. In Ireland the situation seems to be more mixed: the variables used both at the individual and school level add an important piece of information in explaining school variation. However they do not fully explain them. This may testify that other individual factors which are not introduced in the model are also important in the explanation of the between-school variance. This possibility is explored in the following section where the analysis will be restricted to Ireland and Scotland and variables measuring the effect of pupils' social origin and grades at individual as well as at school level will be included.

6.2 The effect of school social background and grades

The effect of social background is measured by four variables: father and mother's employment status (whether they are employed or not) and father and mother's occupational status classified in 4 categories: Class I, service class and routine non-manual workers; Class II, small proprietors, self-employed and farmers; Class III, lower technical, skilled manual workers and semi-unskilled manual workers and missing

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from Education to Work in Europe – Based on National School Leavers' Surveys. ESRI Working Papers.

information.[15] Pupils' grades have been standardised to ensure at least a partial comparability between the classification of grades in Scotland and in Ireland. Moreover, interaction effects between country and grades achieved are also introduced to reduce the possibility of bias.

Social origin and school grades affect pupils' chances of continuing in education (table 3, model 1): having parents from the service class or employed in routine non-manual occupations significantly increases these chances, as does the achievement of higher school grades. Individual factors now explain 80% of the between-school variance in Ireland and 41% in Scotland (table 4). Compared to model 1 of the previous table this model represents an improvement in the explanatory power of the school variance in Ireland but not in Scotland. This is probably due to the already low between-school variance characterising Scotland or may be the sign of the low social segregation existing in its comprehensive school system (McPherson and Willms, 1987).

In Ireland taking into account school structural characteristics reduces the between-school variance by an extra 7% (table 3, model 2) while controlling for school social composition and school average attainment reduces it by 10% (table 3, model 3). In Scotland 6-8% of the between-school variance can be attributed to school factors.

To conclude, individuals' social class and grades contribute to explaining the between-school variance in Ireland. Another portion of this variance is also explained by school characteristics, mainly school composition. On the contrary in Scotland pupils' social class and grades and school composition do not improve the explanatory power of the previous less extensive models.

7. Entering the labour market

7.1 Gaining a job

The other most common transition after leaving school is entering the labour market. This section will analyse the chances of successfully entering the labour market through the acquisition of a job relative to the chances of being in another status different from employment. The next section will deal with unsuccessful entry and the experience of unemployment. In the analyses which follow a parsimonious account of the main results will be presented in table 5. This table will show only the final model (model 3) presented in table 2 which contains all the independent variables at individual and school level as well as the interaction effects between each country and the independent variables.

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[15] An attempt to use a synthetic measure of social background has been made through principal components analysis. The results did not reveal any clear relation between the variables used to study the effect of social origin. Thus, it has been preferred to use them as separate variables and omit those which are not significant from the analysis.

There are significant differences between schools in the propensity of their pupils to make the transition from school to work in all three countries (table 4). However, the likelihood tests indicate that the between-school variance in pupils' chances of gaining a job is significantly higher in the Netherlands than in Ireland (see appendix 2). Individual characteristics explain 14% of the variation between schools in Ireland and 19% in Scotland (table 4). The between-school variance drops dramatically in the Netherlands (94% of a reduction) when curriculum type is included in the model (table 4) and declines by another 27% in Ireland. As in the previous transition, the curriculum type attended by the Dutch school leavers explains most of the variance between schools in the transition from school to work. Having attended a general programme substantially decreases the chances of being employed (table 5, column 1). In Ireland and Scotland this effect is much smaller. Ireland and Scotland significantly differ from the Netherlands in another aspect: leaving from upper-secondary education decreases the chances of entering a job while in the Netherlands the opposite occurs.

When school structural characteristics are included in the analysis the between-school variance declines by an extra 19% in Ireland and by 10% in Scotland but only by 2% in the Netherlands (table 4). One of the most interesting results is the significant effect that in the Netherlands attending a vocational school instead of a "combined" school has in increasing the chances of gaining a job (table 5, column 1). This effect emerges even after controlling for the effect of the curriculum taken by the individual. This result seems to suggest that in this country some vocational schools are particularly successful in placing their pupils in employment. It probably reflects a stronger connection between these types of schools and the labour market than in the other two countries. Moreover, attending a Protestant school in Ireland and a private school in Scotland has a negative effect on the transition to employment. These results have to be read in conjunction with the results of the previous analysis. These schools were found to have a positive effect on pupils' chances of continuing in education.

In the more detailed analysis it emerges that only in Ireland do pupils' social class and grades contribute to explaining the between-school variation (table 4). After controlling for social origin and educational achievement, the introduction of school characteristics further reduces the between-school variance in Ireland.

7.2 Being unemployed

Leaving school and entering the labour market does not always correspond to acquiring a job. A period of unemployment after leaving school has become a common experience among young people. In the previous analysis it emerged that there is a school effect on the likelihood of successfully entering the labour market. Is there a school effect also in pupils' likelihood of being unemployed? In this transition variation between schools is not significant in Scotland (table 4). Moreover, the variance at the school level is significantly higher in the Netherlands than in Ireland and Scotland (see appendix 2). After controlling for individual characteristics the school variance substantially reduces in Ireland and the Netherlands. The categories that appear to be at risk of unemployment in the three countries are: women, pupils leaving from lower-secondary education and from general programmes and those who failed the examination (table 5, column 2). Curriculum type is once again important in the explanation of the between-school variance in the Netherlands. It reduces the between-school variation by another 28% (table 4).

School structural characteristics hardly explain the remaining between-school variance in any of the three countries (table 4).[16] Thus, experiencing a period of unemployment seems to be linked more to individual characteristics than to the school attended. A confirmation of this interpretation comes from the analysis of the effect of social background and grades on the likelihood of being unemployed in Ireland and Scotland. Having a father who is employed, a mother with a high occupational status and having achieved higher grades at school significantly reduces the chances of being unemployed (table not shown). More importantly in Ireland individual characteristics now explain

78% of the between-school variance and 100% of the between-school variance in Scotland (table 4).

8. Entering a training scheme

Vocational training after leaving school has emerged in the last years as a third route between education and work. Training schemes (apprenticeship or youth programmes) have at least two main functions: to provide those vocational skills not taught at school and demanded by the labour market; and to increase the employability of less qualified and unemployed young people. Bearing in mind that there are many country specificities in this respect, in our three countries we can affirm that apprenticeship programmes usually serve the first function and youth programmes the second. Because of their distinct status and student intakes it has been decided to carry out two separate analyses and study the effect of individual and school factors on the transition from school to apprenticeship and from school to youth programme.

In the transition from school to an apprenticeship programme cross-country differences in the variation between schools are never significant. Individual characteristics are very important in affecting the chances of attending an apprenticeship programme after leaving school (table 5, column 3): women, pupils leaving from upper-secondary school and from general tracks have a much lower chance of entering an apprenticeship programme. However, there are some country differences in the strength of this negative effect. Individual characteristics explain 65% of the between-school variance in the Netherlands, 50% in Scotland and 14% in Ireland (table 4). In this transition the attendance of a general programme or a vocational programme does not seem to make a difference in the Netherlands. In Scotland it explains an extra 8% of the between-school variance.

Regarding school structural characteristics it emerges that having attended a vocational school, instead of a school offering both general and vocational programmes, significantly reduces the chances of entering an apprenticeship programme (table 5, column 3). Moreover, Protestant schools compared to Catholic schools have a positive effect on the same chance. The only significant country difference is the strong positive

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[16] Surprisingly, among school structural characteristics it emerges that attending vocational schools significantly increases the chances of being unemployed. It has not been possible to verify whether there

effect of public schools in Scotland. School structural characteristics add very little to the explanatory power of the precedent model: an extra 4% in the Netherlands, 5% in Ireland and 9% in Scotland of the between-school variance can be explained by these variables (table 4).

Individual characteristics with the introduction of pupils' social background and grades reduces the between-school variance by 39% in Ireland compared to the baseline model (table 4). None of the school structural characteristics has been found significant while there are some significant school compositional effects which nevertheless do not affect the between-school variance (table not shown).

There is a significant variance between schools in the transition from school to youth programmes in all three countries (table 4). However, as in the previous transition, these differences do not appear to significantly vary across countries. In Ireland and Scotland most of the between-school variance is explained by individual characteristics (respectively 55% and 40%). In the Netherlands 31% of the between-school variance is explained by individual characteristics. Leaving from upper-secondary education and succeeding at school examinations decrease the chances of entering a youth programme in all three countries (table 5, column 4). Women have higher chances than men of entering a youth programme in the Netherlands and Ireland but not in Scotland. Moreover, in contrast to Ireland, students from general tracks are significantly less likely to attend a youth programme in the Netherlands and Scotland. Another 20% of the between school variance in the Netherlands is explained by school structural characteristics (table 4). In the restricted analysis, where variables measuring social origin and grades are introduced, it emerges that they (especially grades) contribute to explaining part of the between-school (15%) variance in Ireland.

9. Conclusions

The present work aimed to find country differences in the extent to which variations in school leavers' destinations can be explained by the effect of individual and school factors. Multilevel modelling has been used to distinguish two levels of analysis, the individual and the school level. Through this technique of analysis it has been possible to establish how much of the between-school variance is due to individual

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are country differences in this respect due to the small number of cases.

characteristics and how much is due to the individuals' grouping into schools with certain structural and compositional characteristics.

The results show that in all the transitions analysed schools significantly vary from each other in pupils' outcomes.[17] From the likelihood tests it also emerges that the between-school variance in the Netherlands tends to be significantly higher than in Scotland in the transition to further education and to employment. It is also significantly higher than in Ireland in the transition to employment and to unemployment. The school variance in Ireland and Scotland significantly differs only in the transition from school to further education.

Individual characteristics account for the largest part of the between-school variance found in the Netherlands. This is especially due to the effect of the type of programme attended by school leavers.[18] The strong curriculum differentiation which characterises the Dutch school system is also reflected in very differentiated students' destinations (Iannelli and Raffe, 2000). School structural characteristics add very little to the explanation of school variations (apart from the transition from school to youth programmes, where 20% of the between-school variance is due to school structural characteristics). As mentioned in section 3 the distinction among denominational, interdenominational and non-denominational schools and between private and public schools is much less marked in the Netherlands than in the other two countries. This seems to be confirmed by the results which show that little variation between schools in students' chances of making different transitions can be explained by these school characteristics.

The results in the Irish case seem to produce a more complex figure than in the Dutch case. All the school and individual characteristics included in the models contribute to explaining school variation in pupils' destinations. Their importance varies according to the type of transition pupils make but all add a piece of substantial information. Thus, school structural characteristics have been found to play a part in the transitions to further education and to employment. They explain respectively an extra 16% and 19% of the between-school variance. Differently from the Dutch case, the strong denominational and private component in the Irish system seems to matter in pupils' destinations. Moreover, in Ireland among the individual factors social class of origin and grades have an important role in affecting pupils' outcomes.

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[17] There is only one exception there is no significant variation between schools in the transition from school to unemployment in Scotland.

[18] It is arguable whether curriculum type should be considered among the individual variables or school variables. In this paper we have opted for including it at the individual level but to treat it as an "intermediate" variable. This is because schools can provide one type of programme as well as both vocational and academic programmes. Thus a distinction between the type of programme attended by pupils and the type of institution which provides it (introduced among the independent variables at the school level) has been made.

Finally, in Scotland in all transitions most of the between-school variance is explained by individual factors. The lack of a strong denominational (as in the case of Ireland) and curriculum (as in the case of the Netherlands) differentiation among schools in Scotland can be regarded as a possible explanation for this result. The existence of a more unified and comprehensive system has probably reduced the influence of school factors on pupils' post-school destinations.

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Table 1a: Sample characteristics by country (weighted sample)

	Ireland		Netherlands		Scotland	
Individual characteristics	Mean	sd	**Mean**	sd	**Mean**	sd
Female	0.49	0.50	**0.48**	0.50	**0.49**	0.50
Upper-secondary leavers	0.79	0.41	**0.72**	0.45	**0.62**	0.48
Attended general programme	0.67	0.47	**0.34**	0.48	**0.86**	0.50
Failed at formal examination	0.18	0.38	**0.14**	0.35	**0.34**	0.47
Average grades* (standardised coefficients)	0.27	0.84	-	-	**-0.13**	0.96
Father employed	0.71	0.45	-	-	**0.75**	0.43
Mother employed	0.30	0.46	-	-	**0.68**	0.47
Father's occupation[(1)]						
Class I	0.21	0.41	-	-	**0.29**	0.45
Class II	0.27	0.44	-	-	**0.13**	0.34
Class III	0.43	0.50	-	-	**0.34**	0.47
Not known/unclassified	0.09	0.29	-	-	**0.24**	0.43
Mother's occupation[(1)]						
Class I	0.35	0.48	-	-	**0.50**	0.50
Class II	0.03	0.19	-	-	**0.04**	0.21
Class III	0.19	0.39	-	-	**0.15**	0.36
Not known/unclassified	0.42	0.49	-	-	**0.30**	0.46
School characteristics						
Type curriculum provided						
Combination of general and vocational subjects	0.13	0.33	**0.12**	0.32	**1.00**	0.00
General	0.49	0.50	**0.26**	0.44	-	-
Vocational	0.38	0.49	**0.63**	0.48	-	-
Private	0.49	0.50	**0.70**	0.46	**0.05**	0.22
Public	0.51	0.50	**0.30**	0.46	**0.95**	0.22
School denomination						
Catholic	0.47	0.50	**0.11**	0.31	**0.11**	0.31
Protestant	0.01	0.12	**0.16**	0.36	-	-
Interdenominational	0.51	0.50	**0.28**	0.45	-	-
Non-denominational	-	-	**0.30**	0.46	**0.89**	0.31
Not known/unclassified	-	-	**0.15**	0.36	-	-
Sample size per school (unweighted)	14.92	11.43	**108.41**	129.84	**7.96**	5.31
Number of cases (unweighted)	2648		10726		3192	
Number of schools (unweighted)	178		99		401	

*There are 600 cases in Ireland and 48 in Scotland for which the information on grades is missing.

[(1)] Class I: Service class and routine non-manual workers. Class II: Small proprietors, elf-employed and farmers. Class III: Lower technical, skilled manual workers and semi-unskilled manual workers.

Table 1b: Secondary school leavers' principal activity at the time of the survey by country (weighted sample)

	Ireland	Netherlands	Scotland
In education	40.3% (1067)	41.9% (4489)	43.9% (1401)
In the labour forces	46.3% (1227)	44.5% (4772)	29.6% (944)
of whom			
Employed	37.2%	42.3%	21.1%
Unemployed	9.1%	2.2%	8.5%
In training	11.2% (297)	12.8% (1380)	24.3% (778)
of whom in			
Apprenticeship	8.2%	12.0%	12.6%
Youth training	3.0%	0.8%	11.7%
Other*	2.2 (57)	0.8% (85)	2.2 (69)
Total	100% (2648)	100% (10726)	100% (3192)

* This category mainly includes school leavers who are unable to work and those engaged in voluntary work or unpaid work at home.

Table 2: The transition from school to further education. The effect of individual and school structural characteristics (standard errors are in parentheses and significant coefficients are in bold).

	Model 0	Model 1	Model 2	Model 3
Netherlands	-0.06 (0.20)	**-1.34** (0.21)	**-2.23** (0.11)	**-1.89** (0.27)
Ireland	**-0.73** (0.12)	**-2.91** (0.20)	**-4.04** (0.24)	**-3.25** (0.35)
Scotland	-0.07 (0.05)	**-1.36** (0.10)	**-2.37** (0.17)	**-1.24** (0.34)
Women		**-0.36** (0.05)	**-0.38** (0.05)	**-0.39** (0.05)
Educational level (lower sec. ref.)				
Upper sec.		**1.80** (0.11)	**1.32** (0.10)	**1.32** (0.10)
School success (pass reference)				
Fail		**-0.95** (0.14)	**-0.94** (0.14)	**-0.94** (0.14)
Curriculum type (vocational ref.)				
General			**3.16** (0.12)	**3.10** (0.26)
Missing (only in Ireland)			**1.49** (0.28)	**1.11** (0.29)
Ireland*women		**0.74** (0.14)	**0.56** (0.14)	**0.59** (0.14)
Scotland*women		**0.43** (0.10)	**0.49** (0.10)	**0.50** (0.10)
Ireland*upper sec.		**1.13** (0.22)	**1.58** (0.21)	**1.56** (0.21)
Scotland*upper sec.		**0.48** (0.15)	**1.07** (0.14)	**0.99** (0.15)
Ireland*fail		-0.04 (0.23)	-0.13 (0.24)	-0.07 (0.24)
Scotland*fail		**-0.58** (0.17)	-0.35 (0.18)	-0.32 (0.18)
Ireland*general			**-1.52** (0.20)	**-1.81** (0.30)
Scotland*general			**-2.17** (0.18)	**-2.18** (0.29)
School characteristics				
Type curriculum offered (combination of acad. and voc. ref.)				
General				-0.13 (0.23)
Vocational				-0.40 (0.22)
Public school (private ref.)				-0.36 (0.26)
School denomination (catholic ref.)				
Protestant				-0.36 (0.22)
Interdenominational				0.38 (0.23)
Non-denominational				0.17 (0.16)
Religious missing (only in the Netherlands)				-0.01 (0.28)
Ireland*public				-0.91 (0.54)
Scotland*public				**-0.87** (0.37)
Ireland*protestant				**2.87** (0.71)
Variance components				
School leavers level	1	1	1	1
School level:				
Netherlands	**3.70** (0.57)	**3.06** (0.47)	**0.23** (0.05)	**0.16** (0.03)
Ireland	**1.93** (0.27)	**1.34** (0.21)	**0.82** (0.15)	**0.50** (0.11)
Scotland	**0.47** (0.07)	**0.22** (0.06)	**0.24** (0.06)	**0.21** (0.06)

Table 3: The transition from school to further education in Ireland and Scotland. The effect of pupils' social background and grades (standard errors are in parentheses and significant coefficients are in bold).

	Model 0	Model 1	Model 3	Model 4
Ireland	**-0.73** (0.12)	**-3.62** (0.19)	**-3.14** (0.21)	**-3.62** (0.20)
Scotland	-0.07 (0.05)	**-2.22** (0.17)	**-1.22** (0.35)	**-2.26** (0.21)
Women		**0.15** (0.07)	**0.16** (0.07)	**0.16** (0.07)
Educational level (lower sec. ref.)				
Upper sec.		**1.58** (0.10)	**1.53** (0.10)	**1.51** (0.10)
Curriculum type (vocational ref.)				
General		**0.74** (0.10)	**0.60** (0.10)	**0.63** (0.10)
Missing (only in Ireland)		**1.12** (0.27)	**0.87** (0.27)	**0.97** (0.26)
School success (pass reference)				
Fail		**-0.29** (0.11)	**-0.30** (0.11)	**-0.29** (0.11)
Father's occupation (Class III ref.)*				
Class I		**0.24** (0.09)	0.18 (0.09)	0.12 (0.10)
Class II		0.12 (0.10)	0.10 (0.10)	0.08 (0.10)
Missing		**0.26** (0.11)	**0.25** (0.11)	**0.25** (0.11)
Mother's occupation (Class III ref.)*				
Class I		**0.39** (0.11)	**0.37** (0.11)	**0.35** (0.11)
Class II		0.14 (0.20)	0.08 (0.20)	0.07 (0.20)
Missing		**0.30** (0.11)	**0.29** (0.11)	**0.28** (0.11)
Grades		**1.00** (0.07)	**1.00** (0.07)	**0.97** (0.08)
Missing grades		-0.19 (0.32)	-0.18 (0.32)	-0.05 (0.35)
Ireland*grades		**1.31** (0.16)	**1.23** (0.16)	**1.18** (0.16)
Ireland*missing grades		0.50 (0.36)	0.51 (0.36)	0.42 (0.39)
School characteristics				
Public school (private ref.)^1			**-1.03** (0.26)	
School denomination (catholic ref.)				
Protestant (Ireland)			**1.92** (0.60)	
Interdenominational (Ireland)			0.31 (0.30)	
Non-denominational (Scotland)			0.19 (0.17)	
Proportion of fathers in Class I				**0.78** (0.28)
Proportions of mother in Class I				0.03 (0.24)
Average grades				**0.28** (0.14)
Missing average grades				0.14 (0.61)
Ireland*average grades				**0.54** (0.20)
Ireland *missing average grades				-0.26 (0.66)

Variance components				
School leavers level	1	1	1	1
School level:				
Ireland	**1.93** (0.27)	**0.38** (0.10)	**0.25** (0.09)	**0.19** (0.08)
Scotland	**0.47** (0.07)	**0.27** (0.07)	**0.24** (0.07)	**0.25** (0.07)

*Class I: Service class and routine non-manual workers. Class II: Small proprietors, elf-employed and farmers. Class III: Lower technical, skilled manual workers and semi-unskilled manual workers.

Tab.4: Factors explaining between-school variance in youth transitions in the Netherlands, Ireland and Scotland

Chances of continuing in education	Netherlands	Ireland	Scotland
Between-school variance explained by	**3.70**	**1.93**	**0.47**
Individual characteristics (model 1 in tab.2)	17%	31%	53%
Individual characteristics + curriculum type (model 2 in tab.2)	94%	58%	49%
Individual characteristics, curriculum type + school characteristics (model 3 in tab.2)	96%	74%	55%
Individual characteristics + curriculum type + social background and grades (model 2 in tab.3)	-	80%	41%
Individual characteristics + curriculum type + social background and grades + school characteristics (model 3 in tab.3)	-	90%	47%
Chances of being employed			
Between-school variance explained by	**2.44**	**0.37**	**0.21**
Individual characteristics	0%	14%	19%
Individual characteristics + curriculum type	94%	41%	14%
Individual characteristics + curriculum type + school characteristics	96%	60%	29%
Individual characteristics + curriculum type + social background and grades	-	54%	10%
Individual characteristics + curriculum type + social background and grades + school characteristics		60-68%	19-24%
Chances of being unemployed			
Between-school variance explained by	**0.67**	**0.45**	0.35 (n.s.)
Individual characteristics	33%	53%	(66% n.s.)
Individual characteristics + curriculum type	61%	53%	(63% n.s.)
Individual characteristics + curriculum type + school characteristics	58%	62%	(72% n.s.)
Individual characteristics + curriculum type + social background and grades	-	78%	(100% n.s.)

Tab.4: Factors explaining between-school variance in youth transitions in Netherlands, Ireland and Scotland (continuing)

Chances of entering an apprenticeship programme			
Between-school variance	**1.27**	**0.28**	**0.22**
explained by			
Individual characteristics	65%	14%	50%
Individual characteristics + curriculum type	62%	14%	68%
Individual characteristics + curriculum type + school characteristics	69%	19%	77%
Individual characteristics + curriculum type + social background and grades	-	39%	77%
Chances of entering a youth programme			
Between-school variance	**1.06**	**0.58**	**0.25**
explained by			
Individual characteristics	31%	55%	40%
Individual characteristics + curriculum type	0%	55%	32%
Individual characteristics + curriculum type + school characteristics	51%	59%	44%
Individual characteristics + curriculum type + social background and grades	-	74%	48%

Note: the first models refer to more restricted analysis which includes all the three countries. The last two models (or one in the transition to unemployment, apprenticeship and youth programmes) refer to the more detailed analysis in which only Ireland and Scotland are included.

Table 5: The transition from school to employment, unemployment, apprenticeship and youth programmes. The effect of individual and school characteristics.

	Employment	Unemployment	Apprenticeship	Youth Progr.
Netherlands	**-0.78** (0.25)	**-4.09** (0.37)	-0.46 (0.25)	**-5.71** (0.62)
Ireland	0.46 (0.46)	**-2.23** (0.58)	**-0.90** (0.35)	**-5.01** (1.04)
Scotland	**-2.33** (0.40)	**-2.47** (0.41)	**-2.47** (1.05)	**-2.07** (0.55)
Women	**0.26** (0.04)	**0.72** (0.17)	-0.09 (0.08)	**0.68** (0.26)
Educational level (lower sec. ref.)				
Upper sec.	**0.36** (0.07)	**-0.96** (0.18)	**-1.72** (0.09)	**-0.94** (0.27)
Curriculum type (vocational ref.)				
General	-2.45 (0.25)	**-1.29** (0.54)	**-1.45** (0.24)	**-3.11** (1.13)
Missing (only in Ireland)	-0.31 (0.18)	-0.25 (0.27)	-0.24 (0.30)	0.13 (0.35)
School success (pass reference)				
Fail	**0.22** (0.10)	**1.19** (0.22)	0.19 (0.14)	**0.82** (0.37)
Ireland*women	0.02 (0.10)	**-0.58** (0.22)	**-1.43** (0.21)	-0.60 (0.33)
Scotland*women	0.08 (0.10)	**-0.57** (0.23)	**-0.92** (0.14)	**-0.71** (0.28)
Ireland*upper sec.	**-0.74** (0.12)	-0.08 (0.24)	**0.87** (0.18)	-0.53 (0.37)
Scotland*upper sec.	**-0.75** (0.12)	-0.38 (0.24)	**0.40** (0.15)	**-0.62** (0.30)
Ireland*general	**1.87** (0.28)	**1.20** (0.55)	**1.05** (0.28)	**3.29** (1.14)
Scotland*general	**2.14** (0.29)	1.16 (0.59)	0.39 (0.28)	2.24 (1.15)
Ireland*fail	**-0.35** (0.14)	**-0.54** (0.26)	**-0.78** (0.22)	0.33 (0.42)
Scotland*fail	0.01 (0.14)	-0.04 (0.27)	0.04 (0.19)	-0.17 (0.39)
School characteristics				
Type curriculum offered (combination of acad. and voc. ref.)				
General	0.24 (0.25)	0.18 (0.56)	-0.03 (0.31)	1.88 (1.03)
Vocational	**0.91** (0.26)	**0.43** (0.21)	**-0.49 (0.20)**	0.36 (0.30)
Public school (private ref.)	0.03 (0.25)	0.50 (0.32)	0.27 (0.22)	**1.19** (0.49)
School denomination (catholic ref.)				
Protestant	0.07 (0.21)	-0.40 (0.43)	**0.71** (0.24)	-0.56 (0.85)
Interdenominational	-0.23 (0.21)	-0.26 (0.34)	-0.11 (0.21)	0.55 (0.59)
Non-denominational	0.01 (0.16)	**-0.43** (0.20)	-0.11 (0.18)	0.14 (0.20)
Religious missing (only in the Netherlands)	0.06 (0.25)	-0.40 (0.45)	0.11 (0.35)	0.79 (0.68)
Ireland*general	-1.03 (0.55)			
Ireland*vocational	**-0.90** (0.31)			
Scotland*public	**1.18** (0.41)		**2.17** (104)	
Ireland*Protestant	**-1.51** (0.69)			
Variance components				
School leavers level	1	1	1	1
School level:				
Netherlands	**0.11** (0.03)	**0.28** (0.13)	**0.42** (0.09)	0.52 (0.26)
Ireland	**0.15** (0.04)	**0.17** (0.08)	**0.22** (0.10)	0.24 (0.15)
Scotland	**0.15** (0.06)	0.10 (0.13)	0.05 (0.08)	0.14 (0.09)

Appendix 1

School characteristics in Ireland, the Netherlands and Scotland

School offering vocational, general or a combination of vocational and general programmes

The Dutch system is a very differentiated and tracked educational system in which vocational and general programmes are taught in separate schools. Only recently has there been the formation of the so-called "combined" schools, which offer both general and vocational types of programme, as a consequence of a process of unification of smaller school units into larger school units. This process has often not undermined the track distinction which characterised the smaller units before the unification which means that pupils cannot choose a combination of vocational and general subjects (as occurs in the Scottish educational system). However, the "combined" schools make it easier to switch from one track to another, given that the different tracks are run by the same school.

In Ireland there are both general and vocational types of schools and schools offering a combination of the two types of subject. There is a clear demarcation between the schools which provide general education and the others. The general schools are privately owned and mainly denominational (Catholic and Protestant), the vocational schools and comprehensive schools are public schools and interdenominational (Drudy and Lynch, 1993).

The Scottish educational system is the opposite case to the Dutch system. All schools offer both academic and vocational options. Thus, pupils can opt for either an academic or vocational type of programme or a combination of vocational and academic courses according to a modular system.

Private and public schools

In the Netherlands the main difference between private and public is in the composition of the school boards: in public schools the school board is composed of administrators elected by the local district authorities; in private schools they include laymen, sometimes experts in a specific area, very often only parents (who are excluded from the school board of public schools) (Hofman et al., 1996, p.373-374). They are often founded and run by religious associations which means that the majority of private schools are denominational. The others are usually founded by private associations aimed to create a school based on specific kinds of teaching and principles (e.g. Montessori schools). While the public schools are open to all pupils (without distinction of sex, race, religion and beliefs) the private schools can opt for restrictive admission rules. However, in practice they usually do not avail themselves of this faculty (Netherlands Ministry of Education, Culture and Science, 1998). There are no differences between private and public schools regarding the financial aspects, both types of school are state-financed and may ask for parental contributions or fees.

As previously mentioned, in Ireland private schools are essentially denominational. They are privately owned mainly by religious orders (with a net prevalence of the Catholic religious orders). In the past the school board was entirely constituted by religious bodies but recently the composition of the school board has been changed to include trustees, teachers and parents (Drudy and Lynch, 1993). They all receive state funds, however their amount varies between those schools which ask parents to pay fees and those which are non-fee-paying. The school teachers are chosen by the school trustees (often from a religious order) who also pay teachers' basic salary.

In Scotland private schools are independent schools, privately owned and fee-paying schools. They are often selective, in the sense that they have admission tests and provide a curriculum with a stronger academic emphasis. They differ from the Irish private schools because they are not specially linked to religious bodies. They also differ from the Dutch schools because they are more selective, both academically and economically.

Denominational, interdenominational and non-denominational schools

The Dutch educational system is characterised by a plurality of denominational, interdenominational and non-denominational schools. This plurality derives from the principle of freedom of education which is stated by the Dutch Constitution (article 23). This principle allows religious groups and more generally people with specific ideological beliefs to found their schools and to run them according to their beliefs and methodology of teaching (Netherlands Ministry of Education, Culture and Science, 1998).[19] The distinction between denominational, interdenominational and non-denominational schools is quite blurred. In the large cities non-denominational schools prevail, their pupils' intake is more heterogeneous and includes a large quota of immigrants' children. Denominational schools are smaller in size and more frequently located in small towns.

Ireland is the country where the denominational character of the school is strongest. This is due to the central role that the Catholic Church has played in the formation and development of the Irish education. In compulsory schooling the churches have a considerable power in all aspect of schooling, ownership, administration and curriculum. After compulsory schooling the influence of the churches tends to weaken, maintaining a general influence on curriculum matters. Schools providing general programmes (secondary schools) are totally under the ownership and administrative control of the churches. Vocational and comprehensive schools are, instead, characterised by a more balanced situation of power between church and state (from which their interdenominational character derives).

In Scotland denominational schools are almost exclusively Catholic. Their development was linked to Irish immigration in the industrialised areas of Scotland (Willms, 1992). The 1918 Education Act, from which developed the Scottish national education system, established a state-funded system of denominational schools incorporating them in the public system (Fitzpatrick, 1999). Today, the distinctiveness of the Catholic schools mainly resides in the religious ethos which influences education.

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[19] However, there are some requirements stated by the Ministry of Education, Culture and Science that each school is obliged to fulfil. They concern the subjects taught at school, the content of national examinations, the attainment target, teachers' qualifications and training and so on.

Appendix 2

Technical notes

Tests of significance have been carried out to examine whether there are significant country differences in the variance component at the school level. Large differences in within-school sample sizes in the Netherlands, Ireland and Scotland make it difficult to interpret country differences in the between-school variance. Referring to the standard errors becomes unreliable in the case of small samples. Thus, the likelihood statistics have been preferred because the likelihood frame of the inference takes full account of the effect of varying sample sizes.

The deviance statistic has been calculated, that is the difference between the likelihood values (-2Loglikelihhod) for two models in which the second model is nested in the first one. In both models data of two countries are combined - first the Netherlands and Scotland, then the Netherlands and Ireland, and finally Ireland and Scotland. In the first model the constant term is the same for the two countries under examination and has a fixed term plus a random term across schools (which is given by the subscript j). The parameter of the variable "country" (in the following example, the Netherlands) is assumed to be fixed. Following MLwin standard notation:

$$\log(\pi_{ij}) = \beta_{1j}\mathrm{cons} + \beta_{2}\mathrm{neth}_{j}$$

In the second model also the variable for the Netherlands is assumed to be random across schools:

$$\log(\pi_{ij}) = \beta_{1j}\mathrm{cons} + \beta_{2j}\mathrm{neth}_{j}$$

In this equation two separate intercepts are estimated, one for each country, which vary among schools. The second model is nested in the first one, since it is the first model plus one parameter, which is the school variance component in the Netherlands. In both models the –2Loglikelihood statistic has been calculated and the difference between these values, deviance, has been used as significance test.

The following schema summarises the main results of the deviance tests.

	$var(u_{1j}) \neq var(u_{2j})$	$var(u_{1j}) \neq var(u_{3j})$	$var(u_{2j}) \neq var(u_{3j})$
In education	n.s.	sign. p=0.001	sign. p=0.001
Employed	sign. p=0.001	n.s.	n.s.
Unemployed	sign. p=0.001	sign. p=0.001	n.s.
In apprenticeship	n.s.	n.s.	n.s.
In youth programme	n.s.	n.s.	n.s.

$var(u_{1j})$= between-school variance in the Netherlands
$var(u_{2j})$= between-school variance in Ireland
$var(u_{3j})$= between-school variance in Scotland
n.s.= not significant
sign.=significant

Furthermore the models have been tested for the existence of extra-binomial variation. In a few cases extra-binomial variation has been detected. However, the new estimates of the between-school variance, after controlling for the extra-binomial variation, have not substantially changed and the likelihood tests have given the same results.

A second type of investigation has been conducted: it consisted in the extraction of two random subsamples of 7% of the total Dutch sample and 53% of the Irish sample to test whether the larger Dutch within-school sample size could substantially bias the general findings. These two random subsamples in the Netherlands and Ireland reduced the sample size within the schools to an average of 8 pupils, similar to the Scottish sample. A reduction in the between-school variance between 18% and 20% has been verified in the Netherlands in the first two transitions (from school to further education and from school to employment) but it was not enough to invalidate the general conclusions.[20] Moreover, the contribution given by individual and school characteristics to the explanation of the between-school variance has not significantly changed in the three countries under examination.

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[20] No changes have been found in the case of Ireland.

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Comparative Analysis of Transitions from Education to Work in Europe

Young Immigrants on the Labour Market In France and Sweden

Michèle Mansuy

Lena Schröder

CEREQ-INSEE
Marseille, France
17, rue Menpenti
13387 Marseille Cedex 10
E-mail: michele.mansuy@insee.fr

Swedish Institute for Social Research
Stockholm University
S-106 91 Stockholm
E-mail: Lena.Schroder@sofi.su.se

WORKING PAPERS

1. Introduction

Immigrants and the descendants of immigrants constitute a substantial proportion of the populations in France as well as in Sweden. The position of immigrants on the labour market is an important issue and central to the integration of immigrants into society as a whole. In this paper we concentrate on the children of immigrants and their experiences during their first years on the labour market. The successes and failures during these first years probably have a decisive influence on their entire labour market career. The purpose of the study is to gain greater understanding of the labour market situation of the children of immigrants and the specific features that might affect their transition from school to work. By comparing two countries, France and Sweden, a more specific aim is to investigate if and how differences in educational systems and in labour market structure, promote or impede the integration of the children of immigrants on the labour market. The children of immigrants can be immigrants themselves or native born with foreign born parents.[1]

To our knowledge there are no previous international comparative studies on the transition from school to work of the children of immigrants. This is probably due to data constraints. Internationally comparable data are based on citizenship, which means that the definition of an immigrant is dependent on the internationally varying rules for naturalisation of foreign citizens. Moreover, internationally comparable datasets have no information on education or employment status of the parents of the young labour market entrants. The data used in this study stem from the CATEWE school leavers' survey data base and include information on the country of birth of the respondents and their parents, as well as information on the parents' educational level and employment status. However, the data only includes two countries, France and Sweden, and at only one point of time. The results should therefore be considered tentative rather than truly hypothesis testing.

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[1] To use "children of immigrants" to denote both foreign born youth and native born children of immigrants is not entirely correct. Some of the foreign born young individuals have immigrated alone without parents. In Sweden this is partcularly the case for young male refugees from the wars in the Middle East and in the African horn (Ethiopia, Eritrea, Somalia). Adopted children are also, wrongly, included among the children of immigrants.

Background

In both countries, official statistical presentations of the immigrant population are based on citizenship. Foreign citizens are only a sub-group within the immigrant population, and constitute those who arrived more recently into the host country. There are, however, some specific studies using country of birth to define the immigrant population (Silberman and Fournier [1999], Vilhemsson [2000]). According to these studies, immigrants and the children of immigrants (in the case of France also the grandchildren of immigrants) constitute around 25 per cent of the young population in the two countries. In both countries immigrants are a mixture of labour migrants arriving mainly up to the 1970s and refugees who have been granted political asylum.

In Sweden immigration of labour was encouraged up to the middle of the 1960s and labour was actively recruited from mainly Finland, Southern Europe and Turkey. Because the Nordic countries (Sweden, Finland, Norway, Denmark and Iceland) have a treaty of free mobility of labour since 1954, labour migration between mainly Finland and Sweden has continued, reflecting the business cycles in the two countries. (The entry of Sweden into the free labour market of the European Union in 1995 has not been followed by any substantial increase in international labour mobility). The inflow of refugees into Sweden, on the other hand, reflects the political situation in the rest of the world as well as changes in the Swedish asylum policy. The main refugee groups came from Latin American countries in the 1970s, from countries in Asia and Africa in the 1980s and from the former Yugoslavian Republics in the 1990s. Up to the 1990s there has been a substantial inflow of refugees from Eastern European countries (Schröder [2000]).

France has a very long tradition of immigration and was one of the main immigrant destinations in the world at the end of the 19th century. Immigrants played an important role in the industrialisation of France. In the first decades of the 20th century the proportion of immigrants was in fact higher in France than in the US. These immigrants, as well as the native born blue collar workers, are severely hit by the restructuring of the manufacturing sector, which has resulted in a decline in demand for unskilled blue collar workers (Roche [1999]). Labour migrants as well as refugees into France to a large part came from Southern European countries, especially Italy and Portugal and from North Africa.

The subject of this study is the transition from school to work in the 1990s. In Sweden, labour market entrants with an immigrant background comprise fewer native born children of immigrants from European countries (mainly Finland and Eastern European countries) and foreign born children of immigrants from Latin America, Asia and Africa. In France the dominant groups in the relevant ages are native and foreign born children of Southern European (mainly Portuguese) and Northern African (mainly Algerian) immigrants.

There are a few studies on the transition from school to work of the children of immigrants in France and in Sweden respectively, but none that compares the two countries. Rather similar results are reported from both countries. In France several studies have displayed that the children of immigrants are less succesful in school than children of parents born in France. These differences are more pronounced in elementary school than at upper secondary levels. In the case of the native born children of immigrants, their disadvantages in school achievement are explained by socio-demographic factors. Controlling for fathers occupation and other socio-demographic characteristics, there are no differences in elementary school, and at secondary levels the native born children of immigrants perform better than those with native born parents. Similar results are reported from Sweden (Vallet & Caille [1999], Vallet [2000], Arai, Schröder & Vilhemsson [2000]).

From both countries it is also reported that the children of immigrants have a more precarious labour market situation than other young people, with higher unemployment rates and, among those employed, higher rates of temporary and part-time jobs (Silberman & Fournier [1999], Brinbaum & Werquin [1999], Vilhemsson [2000], Arai, Schröder & Vilhemsson [2000]).

2. Why would the labour market situation differ between the children of immigrants and other young labour market entrants?

Human capital in terms of education is important for the labour market situation of the individual. This is especially the case for young labour market entrants, who can't use references from previous employment to the same extent as adult workers. The successes or failures in the process of labour market entry is to a great extent decided already in school. Some of the differences in labour market situation between the children of immigrants and other young labour market entrants are thus due to differences in education, where the level, the type of diploma and, in Sweden, the grades are important.

In both countries one of the aims of educational policy is to compensate for the social background of the parents. As has been shown in numerous sociological studies (e.g. Müller & Shavit [1998]), the education of parents and their position on the labour market are important factors for their children's school achievement as well as their situation on the labour market. This is true for France and Sweden as well as for other countries. Differences in the labour market situation between children of immigrants and other youth are thus partly explained by differences in their social background.

According to "assimilation" theories within the disciplines of economics and sociology, the number of years an immigrant has spent in the new country is of importance for their labour market situation. The change of national labour market associated with immigration leads to a temporary loss of human capital, which is regained by learning the new language, building up new social networks and becoming familiar with the special circumstances of the new country. For foreign born young immigrants their age at immigration is of importance, as it affects their learning of the new language as well as the number of years spent in the school system of the host country (Borjas [1994, 1998], Chiswick [1987, 1997], Silberman & Fournier [1999]). For native born children of immigrants, language abilities as well as contact with the host society is influenced by the number of years their parents have spent in the new country. For the same reasons it is important if one or both parents are foreign born.

Finally, it is possible that children of immigrants are discriminated against on the labour market. Discrimination could be caused by "preferences", i.e. employers, customers or colleagues, preferring native born to foreign born. Another source of discrimination occurs if information on the individual job seekers productivity is difficult to obtain or could only be obtained at high costs, i.e. by interviewing 100 per cent of all job seekers. When information is costly to obtain it is rational of the employer to base the hiring decision on true or false opinions on the average productivity of different groups.

The hiring decision would in this case be based on preconceptions of the average productivity of the group the job seeker seems to belong to, and not on the abilities of the individual job seekers. This kind of discrimination is within economics denoted as "statistical" discrimination, and would negatively effect young labour market entrants belonging to ethnic groups believed to have a productivity level below average (Arrow [1972], Phelps [1972], Lundahl & Wadensjö [1984]).

Discrimination on the labour market is difficult to capture with data normally used in empirical studies. In Sweden it is suggested that job seekers from Africa, Asia and Latin America might be negatively affected by statistical as well as preference discrimination (Arai, Regnér & Schröder [1999]). In France it is possible that North Africans are discriminated on the labour market (Silberman & Fournier [1999]).

3. Why would the relative educational attainment and labour market situation of the children of immigrants differ between France and Sweden?

The French school system is more selective than the Swedish, especially at lower levels. A consequence of this might be that the educational differences between children of immigrants and other children are greater in France than in Sweden. This could be due to differences in social background characteristics of children of immigrants and other children as well as language difficulties, particularly for the foreign born.

On the other hand it is possible that the greater selectivity of the French system also means that the signals to the labour market are more distinct in France than in Sweden, i.e. the French diplomas give better information on the potential productivity of a young jobseeker than the Swedish educational programmes. If that is the case it would affect "statistical" discrimination. Given the educational level and type of diploma of the individual, the differences between children of immigrants and other young labour market entrants would thus be smaller in France than in Sweden.

Both countries are considered to have quite strictly regulated labour markets, with inflexible wages and restrictions regarding temporary jobs and probation periods (OECD [1999]). The options for employers to compensate for perceived higher risk-taking by offering a lower wage are thus restricted. The possibilities to gain work experience within the school system in the form of apprenticeship training or other workplace-based training might be important for counteracting statistical discrimination. France has a small apprenticeship training track, which might be a favourable option for those children of immigrants who are planning to go through a vocational upper secondary programme. On the other hand it is possible that discrimination affects the recruitment into apprenticeship training places as well as into jobs on the labour market.[2]

To sum up we expect that differences between children of immigrants and other youth in educational levels are greater in France than in Sweden but, given education, the differences on the labour market are greater in Sweden than in France.

4. Data

The young labour market entrants in our study left secondary school around five years before the year of the survey. The French data are the Generation 92 survey from CEREQ, which is a longitudinal survey of those who left education in 1992. The survey was performed in 1997, i.e. five years after leaving school. For comparability with Sweden, the secondary level leavers sub-sample (16,000 individuals out of 27,000 interviews) is selected. The Swedish data stem from Statistics Sweden and consists of a merged data set of the follow up studies in 1990, 1992 and 1995 of those who left compulsory education in 1988 (c.10,000 individuals)[3]. Most of the compulsory school leavers continued into the 2- and 3-year programs of upper secondary school. The Swedish 1995 survey was thus performed 4-5 years after the majority left upper secondary school. The French data are based on telephone interviews and the Swedish data on questionnaires. Another difference between the two datasets is that the French sample is a school-leaver study and the Swedish a cohort study. Swedish compulsory school leavers thus have 2-3 years longer labour market experience. Whether this is an advantage or a disadvantage is not easy to assess. The school system has a responsibility for all early leavers until they are 18 years old. This means that youth under the age of 18 hardly enter the labour market, but are engaged in different kinds of school- or local government based training schemes.

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[2] Both countries have compulsory unpaid practice periods within their school based vocational programmes. The significance on the labour market of these practice periods are unknown.

[3] In the Swedish data the children of immigrants are oversampled, which makes it possible to disaggregate the immigrant group into sub groups. The tables in the study show weighted results, which should be representative for the population.

The combined French-Swedish sample is restricted to young labour market entrants defined as those who did not immediately continue from secondary to tertiary education. The data can thus not be used to analyze the choices between and selection into different educational programmes in general. The traditions regarding the entry into tertiary education are very different in France and Sweden. In France a very high (95%) proportion of students with a General Baccalaureate continue directly into tertiary education, which is not the case for young Swedes leaving the academic tracks in upper secondary school. In the Swedish sample only 23 per cent continued directly from the academic tracks into tertiary education.

The study is thus restricted to the situation on the labour market five years after leaving secondary school and the educational background of these labour market entrants. The data are not ideal, as the sample design differs between the two countries, and the exclusion of entrants into tertiary education has different implications in the two countries. In the absence of ideal data, the shortcomings in the surveys used in this study are counterbalanced by their information on the country of birth of the respondents and their parents as well as other socio-economic factors, which are not found in other more comparable data sources (for example the EU labour force surveys).

5. Description

The children of immigrants are a very heterogeneous group, consisting of young people born in France and Sweden respectively as well as of young people who have recently immigrated and spent very few years in the host countries. Their degree of "exposure" to the host country is influenced by how long they have lived in the host country themselves as well as by how long their parents are residents in the host country. As the French data have no information on the year of immigration, we can only distinguish between children and parents born in France and Sweden respectively, and those who were born abroad. From other sources we know that foreign born school-leavers in the beginning of the 1990s have a rather similar distribution on arriving before or after school-starting age. In France 52 per cent of young immigrants arrived in France before they started school (i.e. before the age of six). The corresponding proportion in Sweden is 45 per cent (Brinbaum & Werquin [1999], Arai, Schröder & Vilhemsson [2000]).

We examine the labour market position of foreign born young and, among the foreign born, we will also distinguish between different countries, as this might affect discrimination on the labour market.

Immigrants and native born children of immigrants, distribution on country of birth

Around 5 per cent of young labour market entrants in France as well as in Sweden are born abroad. The distribution varies for the two countries. In France around 2 per cent were born in a North African country, 1 per cent in Turkey and 0.5 per cent in a Southern European country. In Sweden around 2 per cent were born in an Asian country (including Turkey) and 1 per cent in another Nordic country.

Table 1 Country of birth of respondents
(frlocb, swlocb2)

	France Per cent	Sweden Per cent
Native born	95.8	95.5
North Africa	1.9	0.0
Other Africa	0.2	0.2
Vietnam	0.3	0.1
North Europe	0.2	-
South Europe	0.5	0.0
Turkey	0.9	0.4
Other countries than those above	0.3	-
Nordic (not Sweden)	-	1.0
North Europe (not Nordic)	-	0.2
East Europe	-	0.4
USA, Canada, Oceania	-	0.1
Other Asian	-	1.4
Latin America	-	0.6
N	16,544	9,422

France has a longer tradition as an immigrant country than Sweden and thus a slightly larger proportion of native born youth with a foreign born mother or father.

The distribution by country reflects the different immigration patterns into the two countries. In France around 5 per cent of the parents of native born children originate in North Africa and another 5 per cent in a Southern European country.

In Sweden the country of birth of the parents to native born children reflects the earlier substantial labour immigration from Finland. Around 5 per cent of parents were born in another Nordic country. Another quite large group is former refugees from Eastern European countries and labour migrants from Yugoslavia, which constitute around 2 per cent of the parents of the native born Swedish youth in the sample. The proportion of native born youth with parents from non-European countries is very low. Immigration into Sweden from Latin America, Asia and Africa mainly consist of refugees arriving in the 1970s and later, i.e. their native born children have in large not yet reached the ages of labour market entry.

Table 2 Country of birth of parents to native born children

	France		Sweden	
	Fathers	Mothers	Fathers	Mothers
Native born	86.3	88.1	93.5	91.5
North Africa	5.3	4.6	0.0	0.0
Other Africa	1.1	0.6	0.0	0.2
Vietnam	0.1	0.1	0.0	0.0
North Europe	0.3	0.5	-	-
South Europe	6.2	5.5	0.5	0.3
Turkey	0.3	0.3	0.1	0.1
Other countries	0.4	0.4	-	-
Nordic (not Sweden)	-	-	3.1	5.7
North Europe (not Nordic)	-	-	1.0	0.6
East Europe	-	-	1.5	1.5
USA, Canada, Oceania	-	-	0.0	0.1
Other Asian	-	-	0.1	0.0
Latin America	-	-	0.2	0.0
N	13,274	13,274	7,931	7,931

There are some differences in occupational and educational attainment between native and foreign born parents. In Sweden immigrants from the Nordic countries have higher shares of skilled workers than native born parents, and immigrants from southern Europe and non-European countries have higher shares of unskilled workers. When it comes to education, Nordic, Southern European, Turkish and Vietnamese parents have lower education levels than native born parents, while all other foreign born parents have equal or higher education levels than native Swedish parents. This indicates that parents from other Asian countries, Africa and Latin America have not managed to gain employment in accordance with their educational level.

In France young people with foreign born parents also differ from the rest of the population: they are more often children of a manual worker or of a father without a diploma. This does not apply to all countries of origin: although north African, Turkish or southern European fathers are more often manual workers and have frequently a lower level of education, this is not true for parents born in other countries.

In the analysis we will use two different measures of immigrant background. The first is related to assimilation theory and is based on the degree of "exposure" to the host country. According to assimilation theory the time spent in the new country is decisive for the labour market outcome of immigrants. In the case of young immigrants, the age at immigration is important as well, especially whether the immigrant arrived before or after the age of 6. Our data have no information on the age at immigration, which means we can only distinguish between foreign born and native born with or without immigrant parents. Another important factor for integration into the new country is whether both parents or only one parent are born abroad. We will thus use an "exposure" variable that combines the distinction between foreign and native born for the young labour market entrants with that of their parents.

Table 3 Exposure to host society, per cent

	France	Sweden
Native born, both parents native born	80.2	84.2
Native born, one parent foreign born	6.5	8.4
Native born, two parents foreign born	9.1	3.0
Foreign born	4.2	4.5
N	13,274	7,931

In addition we will also use a variable reflecting nationality. In France as well as in Sweden, whether certain groups among the immigrants are discriminated against on the labour market is discussed. In France discrimination is mainly supposed to affect immigrants from North Africa and their children. In Sweden it is those from Africa, Asia and Latin America (Silbermann & Fournier [1999], Arai, Regnér & Schröder [1999]). In France 7.9% of the respondents have a father or a mother born in North Africa. In Sweden 2.2% have a father or a mother born in Africa, Asia or Latin America.

Educational level and field of young labour market entrants

The French educational system is more selective than the Swedish one, which might imply that French children of immigrants are relatively more at a disadvantage in school than their Swedish counterparts. Controlling for social background this would mainly affect those who are not fluent in French and in Swedish respectively, i.e. mainly those who are born abroad themselves.

The description below of the educational background of young labour market entrants is only relevant for those who did not continue immediately from upper secondary school into tertiary education. To compare the educational levels and fields in the two countries we use the CASMIN scale[4]. As expected, foreign born children enter the labour market with only compulsory education to a greater extent than other children. Among the native born, those with two foreign born parents have higher shares with only compulsory education than other entrants. In Sweden this is also true for native born labour market entrants with only one foreign born parent. In both countries participation in the vocational tracks in upper secondary school (Casmin 2a) is lower among labour market entrants with an immigrant background than among other entrants. Another similarity between the two countries is that entering the labour market with a "full maturity diploma" is most frequent among foreign born children with one parent born abroad.

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[4] See Müller & Shavit (1998) for a presentation of the CASMIN scale.

Table 4 Educational levels and fields according to exposure to host country, CASMIN scale

	Native born both parents native born		Native born, one parent foreign born		Native born, both parents foreign born		Foreign born	
	France	Sweden	France	Sweden	France	Sweden	France	Sweden
Levcas (When leaving school in France, at time of survey in Sweden								
1ab Compulsory	12.5	19.6	11.3	23.7	17.2	29.4	29.7	31.2
1c Basic vocational	10.0	-	10.4	-	9.3	-	7.5	-
2a Advanced vocational	35.2	42.0	29.6	38.6	29.8	38.5	27.2	35.6
2b Academic intermed	9.6	5.4	12.6	3.8	15.0	4.9	13.3	6.8
2c Full maturity	32.7	33.1	36.2	33.8	28.7	28.1	22.3	26.3

As a background to the analysis of the labour market we also present the distribution of leavers on the CASMIN scale for French children to immigrants from North Africa and Swedish children to immigrants from Africa, Asia or Latin America, irrespective of whether these young labour market entrants are native or foreign born themselves. In both countries very high proportions of these ethnic groups enter the labour market with compulsory education only.

Table 5 Educational levels and fields according to ethnicity, CASMIN scale

	France parents born in North Africa		Sweden parents born in Africa, Asia or Latin America	
	at least one parent	both parents	at least one parent	both parents
Levcas (When leaving school in France, at time of survey in Sweden				
1ab Compulsory	19.9	23.3	36.5	37.5
1c Basic vocational	7.8	6.9	-	-
2a Advanced vocational	28.0	27.3	32.1	33.1
2b Academic intermed	16.6	17.4	4.3	5.6
2c Full maturity	27.6	25.1	27.2	23.8

The logit estimates below (*Tables 6* and *7*) on the risk of entering the labour market with only compulsory education, show that most of the differences according to "exposure to the host country" are statistically significant in both countries. The higher the "exposure" the lower the risk of entering the labour market with compulsory education only. The only exception is French native born entrants with one foreign born parent, who have a *lower* risk than those with two native born parents. Including fathers social class and education in the analysis reveals that in France only those who are foreign born themselves have a higher risk of entering the labour market with compulsory education only. In Sweden the negative impact of having one or two foreign born parents remains after the inclusion of fathers' social class, albeit the coefficients are smaller.

In both countries the groups believed to be affected by discrimination have higher risks of entering the labour market with only compulsory education than other young entrants, i.e. those with North African origin in France and those with African, Asian or Latin-American origin in Sweden.

Table 6 Logit estimates. Dependent variable = entered labour market with compulsory education only (Casmin 1ab), France

Bold signifies statistical significance p <.05, *italics* p < .10

	France	France	France
Constant	**-2.02**	**-2.02**	**-1.91**
Foreign born	**1.23**	**1.05**	**0.93**
Native born, two parents foreign born	**0.40**	**0.24**	0.04
Native born, one parent foreign born	**-0.26**	**-0.26**	**-0.27**
Native born, both parents native born	ref	ref	ref.
Female	**-0.27**	**-0.27**	**-0.30**
North African origin		**0.38**	**0.31**
Father employed			**-0.21**
Father manual worker			**0.45**
Father upper sec. education			**-0.21**
Father university education			**-0.91**
N			
-2LL	9376	9193	9056

Table 7 Logit estimates, dep var = entered labour market with compulsory education only (Casmin 1ab), Sweden

Bold signifies statistical significance p <.05, *italics* p < .10

	Sweden	Sweden	Sweden
Constant	**-1.43**	**-1.42**	**-0.72**
Foreign born	**0.62**	**0.53**	**0.39**
Native born, two parents foreign born	**0.53**	**0.52**	**0.43**
Native born, one parent foreign born	**0.25**	**0.25**	**0.21**
Native born, both parents native born	ref	ref.	ref
Female	0.03	0.03	**-0.11**
Both parents born in Africa, Asia or Latin America		0.37	0.35
Father employed			**-1.12**
Father manual worker			**0.29**
N = 9618			
-2LL	9581	9578	9208

The hypotheses on the implications of the higher selectivity of the French school system cannot be tested with the data we are using. For the subgroup of labour market entrants, however, the French school system seems to provide greater difficulties for foreign born children than the Swedish system. This could be an indication of the higher selectivity of the French educational system, which would be particularly detrimental to pupils born abroad and is in accordance with what was expected.

On the other hand the French school system seems to provide relatively better opportunities for native born children with foreign born parents than the Swedish one. This result is not expected, nor are there any explanations in the data we are using.

Table 8 Logit estimates, dependent variable = entered labour market with compulsory education only (Casmin 1 ab)

Bold signifies statistical significance p <.05, *italics* p < .10

	1	2	3
Constant	**-1.36**	**-1.36**	**-0.67**
Foreign born	**0.62**	**0.46**	**0.34**
Native born, two parents foreign born	**0.53**	**0.51**	**0.43**
Native born, one parent foreign born	**0.23**	**0.20**	*0.18*
Native born, both parents native born	ref.	ref.	ref.
Female	**-0.10**	**-0.10**	**-0.19**
France	**-0.59**	**-0.59**	**-1.31**
Interactions France and exposure			
France * foreign born	**0.47**	**0.52**	**0.54**
France * two parents	-0.15	-0.23	*-0.30*
France * one parent	**-0.48**	**-0.54**	**-0.35**
Interaction France and possible discrimination			
France * North African (Fr) or African, Asian, Latin Am. (Sw)		-0.22	-0.13
Father employed			**-1.14**
Father worker			**0.30**
Interaction France and social background			
France * father employed			**0.95**
France * father worker			**0.23**
N=24,753			
-2LL	21,033	21,021	20,515

6. Labour market situation at time of survey

There are great differences between France and Sweden regarding the main activity at the time of the survey. In France the overwhelming majority are in the labour force, while the proportion in the labour force is substantially lower in Sweden. The low labour force participation rate in Sweden is explained by the high proportion of students. This could be due to different admission rules to tertiary education as well as different patterns of alternating between studies, work and other activities (like going abroad). More than half of the studying Swedes are at a university or college, the other half are participating in adult education and miscellaneous courses. The proportion at tertiary level is lower among foreign born students than among other young Swedes. The foreign born students are more likely to participate in different kinds of adult education programmes in order to complete their secondary education or to get higher grades than those received while in the regular school system.

Table 9 Main activity five years after leaving school[5]

	Native born both parents native born		Native born, one parent foreign born		Native born, both parents foreign born		Foreign born	
	France	Sweden	France	Sweden	France	Sweden	France	Sweden
Regular employment	68.4	51.0	63.5	45.4	60.3	45.8	54.1	36.1
Employment scheme, without training	3.1	5.6	2.4	7.8	2.7	5.9	2.7	6.7
Employment scheme, with training	0.9	-	0.5	-	0.5	-	0.5	-
Apprentice	0.4	-	0.5	-	0.4	-	0.1	-
Unemployed	17.3	9.8	17.6	11.8	23.7	21.0	30.8	17.0
State training scheme	2.6	1.2	3.2	0.6	3.7	1.0	4.0	1.9
Education/voc training	1.9	24.2	2.9	27.1	2.9	15.8	3.1	26.3
National service	1.0	-	1.8	-	1.4	-	0.4	-
OLF/other	4.5	6.4	7.4	5.8	4.3	7.7	4.3	10.5

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[5] In Sweden 4-5 years after leaving upper sec, 7 years after compulsory.

Table 10 Main activity five years after leaving school

Bold signifies statistical significance $p < .05$, *italics* $p < .10$

	France parents born in North Africa		Sweden parents born in Africa, Asia or Latin America	
	at least one parent	both parents	at least one parent	both parents
Regular employment	53.3	48.6	33.2	36.5
Employment scheme without training	3.1	3.6	7.9	7.7
Employment scheme with training	0.3	0.3	-	-
Apprentice	0.4	0.6	-	-
Unemployed	29.1	33.1	19.8	21.2
State training scheme	5.1	5.7	1.5	1.0
Education/vocational training	3.2	3.3	28.7	22.1
National service	0.5	0.2	-	-
Out of labour force, other	5.0	4.5	7.4	9.6

The distribution on "main activity" in *Table 9* suggests a positive correlation between "exposure" and employment in both countries, the employment rates increase with the degree of exposure. The groups that might be at risk of being discriminated against on the labour market have lower employment rates than any other group. When it comes to unemployment there seems to be a negative correlation with exposure and with North African origin in France. In Sweden the pattern is blurred by the high participation rate in education.

The hypotheses to be examined in this section is whether, given education, the differences in employment and unemployment between immigrants and natives are smaller in France than in Sweden. The analysis is therefore restricted to those in the labour force. Besides the employed and the unemployed we also regard those who are participating in an employment scheme or in apprenticeship training as being in the labour force. As the employment schemes target different groups in the two countries[6], we treat employment schemes together with apprenticeship training as a separate category. The data set contains some important variables that are only available for one of the countries. We therefore begin with a presentation of the labour market situation for each country separately, using multinomial logit models. The reference group is always native born youth with two native born parents. The labour market positions "unemployed" and "participating in employment scheme or apprenticeship training" are always compared with the reference alternative "having a regular job without any kind of subsidies".

In **France** the risk of being unemployed rather than employed is higher for foreign born youth and for native born youth with two foreign born parents (*Table 11, model 1*). These higher unemployment risks are to a large extent carried by young people of North African origin[7]. After including North African origin in *model 2* the coefficients for "foreign born" and "native born, both parents foreign born" are substantially reduced, but they are still positive and statistically significant.

Education is of great importance on the French labour market (*models 3 and 4)*. All educational levels above compulsory education experience a reduced risk of being unemployed. "Full maturity education", has the strongest impact and "academic intermediary" the lowest. Work experience in terms of following an apprenticeship track or having worked while in school also reduce the unemployment risks. Differences in education explain the higher unemployment risks of children of two immigrant parents. After controlling for education and work experience while in school the coefficient for "native born, both parents foreign born" is no longer statistically significant. Despite controlling for education and work experience the higher unemployment risks of foreign born youth and youth of North African origin are still statistically significant. *Model 5* includes variables indicating social background. Having an employed father reduces the risk of being unemployed. If the father is a manual worker the risk is increased. The higher unemployment risks of foreign born youth and youth of North African origin, however, remain statistically significant.

The French employment schemes and apprenticeship training places are not targeted at youth with an immigrant background. All coefficients for "exposure" or North African origin are negative and, with one exception, statistically insignificant. The target group for the French schemes within this age group is those with compulsory education only.

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[6] See Schröder (2000).

[7] We have run separate models using "both parents born in North Africa" instead of "at least one parent born in North Africa". The signs of the coefficients and the significance levels are the same, but the value of the coefficients are somewhat stronger for "both parents", for example 0.72 in model 2 instead of 0.57.

The situation of young women on the French labour market is noteworthy. The risk of being unemployed is around twice as high for young women than for young men. This doubled risk for young women also holds for those participating in an employment scheme.

Table 11 France, multinomial logit estimates
Dependent variable = labour market position at time of interview

Bold signifies statistical significance p <.05, *italics* p < .10

	1		2		3		4		5	
	unemployed	scheme	unemployed	scheme	unemployed	scheme	unemployed	scheme	unemployed	scheme
Constant	**-1.70**	**-3.04**	**-1.70**	**-3.04**	**-0.75**	**-2.25**	**-0.64**	**-2.14**	**-0.45**	**-1.78**
Foreign born	**0.84**	0.00	**0.58**	-0.13	**0.36**	-0.31	**0.36**	-0.32	**0.44**	-0.17
Native born, both parents foreign born	**0.44**	0.00	**0.19**	-0.18	0.13	-0.24	0.12	-0.24	0.00	**-0.49**
Native born, one parent foreign born	0.12	0.00	0.00	-0.17	0.00	-0.14	0.00	-0.12	0.00	-0.23
Female	**0.66**	**0.63**	**0.65**	**0.63**	**0.77**	**0.73**	**0.74**	**0.70**	**0.75**	**0.68**
At least one parent born in North Africa			**0.57**	0.26	**0.52**	0.21	**0.55**	0.24	**0.47**	0.11
Basic vocational education					**-1.02**	**-0.72**	**-0.81**	**-0.39**	**-0.79**	**-0.53**
Advanced vocational education					**-1.15**	**-1.03**	**-1.00**	**-0.85**	**-0.90**	**-0.93**
Academic intermediate educ					**-0.46**	*-0.24*	**-0.39**	-0.18	**-0.38**	**-0.36**
Full maturity education					**-1.51**	**-1.25**	**-1.33**	**-1.07**	**-1.23**	**-1.12**
Apprentice track							**-0.33**	**-0.52**	**-0.31**	**-0.59**
Worked during educ							**-0.48**	**-0.45**	**-0.47**	**-0.43**
Father employed									**-0.43**	**-0.27**
Father manual worker									**0.15**	0.00
Father upper sec education									0.00	**-0.21**
Father university education									**0.25**	0.16
N =										

Table 12 Sweden, multinomial logit estimates
Dependent variable = labour market position at time of interview

Bold signifies statistical significance p <.05, *italics* p < .10

	1		2		3		4		5	
	unemployed	scheme	unemployed	scheme	unemployed	scheme	unemployed	scheme	unemployed	scheme
Constant	**-1.48**	**-2.23**	**-1.48**	**-2.25**	**-1.06**	**2.22**	0.00	**-0.96**	0.00	**-0.95**
Foreign born	**0.91**	**0.54**	**0.72**	0.38	**0.67**	0.37	**0.63**	0.31	**0.61**	0.30
Native born, both parents foreign born	**0.84**	0.17	**0.82**	0.15	**0.75**	0.15	**0.75**	0.15	**0.73**	0.13
Native born, one parent foreign born	**0.27**	**0.46**	**0.24**	**0.44**	**0.26**	**0.44**	**0.26**	**0.45**	**0.26**	**0.45**
Female	**-0.41**	0.00	**-0.41**	0.00	**-0.38**	0.00	**-0.30**	0.14	**-0.34**	0.13
At least one parent born in Africa, Asia or Latin America			**0.48**	0.43	***0.48***	0.43	***0.47***	0.41	***0.45***	0.40
Advanced vocational education					**-0.42**	-0.11	**-0.21**	0.15	**-0.18**	0.15
Academic intermediate educ					0.00	**0.42**	0.19	**0.73**	0.22	**0.73**
Full maturity education					**-1.16**	0.00	**-0.95**	**0.31**	**-0.90**	**0.33**
Grades							**-0.41**	**-0.52**	**-0.40**	**-0.52**
Father employed									**-0.26**	0.00
Father manual worker									***0.15***	0.12

The relative labour market situation of the children of immigrants in **Sweden** differs from the situation in France. Using only the "exposure" variables results in higher unemployment risks for all children of immigrants, whether native or foreign born. The unemployment risks seem to be particularly high for those of African, Asian or Latin American origin. The coefficients for "exposure" and for African, Asian and Latin American origin decline somewhat when additional variables are included, but they remain statistically significant and negative in all the models.

The targeting of the Swedish employment schemes[8] also appears to vary from the French schemes. In Sweden all the "exposure" and African, Asian and Latin American coefficients are positive and statistically significant. Another difference from France is the impact of education on the risk of participating in an employment scheme in Sweden. The Swedish schemes are targeted at those with an academic intermediary or a full maturity education (compared to those with compulsory education only)[9].

Another striking difference between the two countries is the labour market situation of young women. In Sweden young women have lower unemployment risks than young men, and there is no gender difference in the risks of participating in an employment scheme.

The results above indicate that education might reduce the labour market differences between youth with and without an immigrant background in France in Sweden. To examine this hypothesis we will pool the French and Swedish data and use the variables that are common for the two countries.

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[8] No apprenticeship training operated in Sweden at the time of the survey.

[9] The most common labour market scheme at the time of the survey was explicitly targeted at those who were unemployed with an upper seconday education. Those with only compulsory education should be encouraged to return to school.

Table 13 Multinomial logit estimates
Dependent variable = labour market position at time of interview

Bold signifies statistical significance p <.05, *italics* p < .10

	1		2[c]	
	unempl.	scheme	unempl.	scheme
Constant	**-1,48**	**-2,23**	**-0,86**	**-2,13**
Foreign born	**0,91**	**0,54**	**0,62**	*0,41*
Native born, both parents foreign born	**0,84**	0,17	**0,73**	0,15
Native born, one parent foreign born	**0,27**	**0,46**	**0,26**	**0,45**
Female	**-0,41**	0,00	**-0,43**	0,00
France	**-0,22**	**-0,97**	**0,36**	-0,18
Potential discrimination [a]			**0,46**	0.26
Vocational education [b]			**-0,36**	0,00
Academic intermediate educ			0,00	**0,45**
Full maturity education			**-1,01**	0,00
Interactions with France:				
Foreign born *France	0,00	-0,49	-0,22	**-0,64**
Native born, both parents foreign born * France	**-0,40**	-0,26	**-0,65**	**-0,74**
Native born, one parent foreign born * France	**-0,15**	**-0,56**	***-0,30***	**-0,72**
Female * France	**1,06**	**0,67**	**1,20**	**0,79**
Vocational education * France			**-0,75**	**-0,88**
Academic intermediate educ * France			**-0,45**	**-0,87**
Full maturity education * France			**-0,44**	**-1,25**

a France: at least one parent born in North Africa; Sweden: at least one parent born in Africa, Asia or Latinamerica.

b Basic (Casmin 1c) and advanced (Casmin 2a) vocational education.

c The variables *father employed* and *father worker* are included in the model. The coefficients have the expected signs but are not shown here.

The results of the pooled data shed some light on the hypothesis that, given education, the relative labour market situation of the children of immigrants is better in France than in Sweden. For young foreign born people there is no difference between France and Sweden in the relative risk of being unemployed. This is also true when education is included, which is somewhat contrary to what was expected.

There is a substantial difference between the countries in the labour market situation of the native born children of immigrants. Their relative unemployment risks are higher in Sweden than in France. In the first model education is not taken into consideration, which means that there is nothing in the model that can explain the higher Swedish relative unemployment risks. The disadvantages of the native born children of immigrants in Sweden, as compared to France, become more pronounced when the educational level of the individual is taken into consideration (model 2). The relative risk of being unemployed is around 50 per cent lower for a native born young person with two foreign born parents in France compared to a young person in Sweden with similar characteristics in terms of immigrant background and school achievement. The importance of education on the French labour market is also demonstrated by the negative signs of the interaction variables between France and education.

The relative risks of participating in a labour market scheme also differ between the two countries. All interaction variables between France and exposure and France and education are negative, i.e. having an immigrant background or an educational level above compulsory education reduces the risk of scheme participation in France as compared to Sweden.

The results are thus not totally in line with the hypothesis, but indicate that there are some merits in the signalling power of an educational system that ought to be explored with data containing more countries or a greater number of time-points.

7. Summary and conclusions

The aim of the study is to investigate if and how differences in educational systems promote or impede the integration of the children of immigrants on the labour market. As both countries are considered to have strictly regulated labour markets, the influence of labour market structure is supposed to be equal in both countries. The study is restricted to young labour market entrants, i.e. those who continue to university studies are excluded from the data. The first hypothesis is that the more selective French school system would imply that the educational differences between the children of immigrants and other pupils are greater in France than in Sweden. This could be due to differences in social background between the children of immigrants and other children as well as to language difficulties of especially the foreign born. The results give some support to the hypothesis. In France, compared to Sweden, foreign born labour market entrants have a higher risk of entering the labour market with compulsory education only. On the other hand, native-born labour market entrants with foreign born parents have a lower risk of entering the labour market with compulsory education in France than in Sweden. It is not possible to explain this country difference for the native born with an immigrant background with this data.

The labour market situation approximately 5 years after leaving school is discussed within the framework of statistical discrimination, i.e. that employers base their hiring decisions on the perceived average productivity of groups and not on the abilities of the individual jobseeker. It is possible that the greater selectivity of the French system also means that the signals to the labour market are more distinct in France than in Sweden, i.e. the French diplomas give better information on the potential productivity of a young jobseeker than the Swedish educational programmes. If that is the case, "statistical" discrimination would be of less importance in Sweden than in France. The second hypothesis is that, given the educational level and type of diploma of the individual, the differences between children of immigrants and other young labour market entrants are smaller in France than in Sweden.

The results indicate that all native born children of immigrants have a better relative labour market position in France than in Sweden. The disadvantages experienced by the native born children of immigrants in Sweden, as compared to France, become more pronounced when the educational level of the individual is taken into consideration. The relative risk of being unemployed is around 50 per cent lower for a native born young person with two foreign born parents in France compared to a young person in Sweden with similar characteristics in immigrant background and school achievement. The results indicate that there could be some merits in this hypothesis that ought to be explored with data including more countries and/or observation points.

In both countries some ethnic groups are believed to be particularly exposed to discrimination on the labour market, whether this discrimination is caused by preferences or by lack of information. In France this group comprises youth of North African origin, and in Sweden those of African, Asian or Latin American origin. In France youth of North African origin enter the labour market with a lower educational level than any other groups. In both countries young people belonging to the "potentially discriminated" groups have higher unemployment risks than other young people. These higher unemployment risks remain when variables controlling for the individual's education as well as their social background are included in the model.

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WORKING PAPERS

Relative Labour Market Disadvantage among the Least Qualified in Ireland, the Netherlands and Scotland, 1979 - 1997

Selina McCoy

Economic and Social Research Institute (ESRI)
4 Burlington Road
Dublin 4
Ireland
E-mail: selina.mccoy@esri.ie

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1. BACKGROUND/CONTEXT

An earlier paper (McCoy, 1999) examined the nature of labour market access problems and the employment quality experienced by the least qualified at a single (recent) point in time (1996/97): this failed to take account of the influence of cyclical or business cycle effects on the employment experiences of these young people. It was also not possible to examine the extent to which the employment experiences of the least qualified changed as their absolute numbers changed (with rising educational participation and retention) and with wider technological and structural changes in the economy. This paper attempts to examine these issues in three of the countries for which time-series data is available: Ireland, the Netherlands and Scotland.

2 RESEARCH QUESTIONS

- How has the relative size of least qualified cohorts changed across time in Ireland, the Netherlands and Scotland?
- How does the absolute size of these groups relate to their labour market experience?
- How have the labour market access and integration experiences of the least qualified changed across time?
- How has the quality of employment secured by the least qualified changed over time?
- How has the representation of the least qualified in traditional employment spheres such as skilled/semi- and unskilled manual work changed over time?
- How do economic climate and business cycle circumstances influence both the absolute proportions leaving school poorly and unqualified and their relative LM experiences?

3 DATA AND METHODS

3.1 SLS Time-Series Database

The paper draws on data from school leavers' surveys conducted in three of the countries over the past 2 decades. The following surveys are used:

- Ireland (1980, 1985, 1989, 1993, and 1997);
- The Netherlands (1989, 1993 and 1997);
- Scotland (1979, 1985, 1989, 1993 and 1995).

While school leavers' survey data in Ireland and Scotland is available from the start of the 1980s, data in the Netherlands is of a shorter time-span because such surveys were initiated at a later time point in this country.

The analyses are based on the following sample numbers:

Year	Ireland	Netherlands	Scotland
1979/80	3,482	-	5,948
1985	2,066	-	5,572
1989	1,988	16,237	4,753
1993	2,193	17,729	5,328
1995/97	2,708	11,545	4,864
Total	12,437	45,511	26,465

3.2 Defining the Least Qualified

Two definitions of the least qualified are employed in these analyses, with some analyses employing the complete VTLMT-based educational attainment measure. The two measures are those who depart without passing lower second level ('dropouts')[1] and those who departed prior to (attempting) upper second level (lower level leavers, hereafter referred to as LLLs). Two educational cut-off points are employed to examine the extent to which exclusionary processes are confined to the unqualified leavers or whether poorly qualified groups are also highly disadvantaged. In essence, this allows the testing of differences in the labour market experiences of unqualified versus poorly qualified young people. These measures are confined to initial educational attainment levels and do not incorporate participation in alternative educational/ training participation across countries, which have been show to display important institutional variation (see paper by Martin and Raffe, VTLMT Report 1998).

The extent to which labour market experiences vary according to LLL or dropout status is examined both within and across countries. A multidimensional view of labour market disadvantage is taken: variation in both the incidence and experience of unemployment and the quality of employment attained is examined. Employment

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[1] It is not possible to distinguish the least qualified dropout group for Ireland in 1980.

quality is examined across a range of measures: social class position, occupational type, occupational segment and earnings.

4 DESCRIPTIVE RESULTS

4.1 Prominence of Educationally Least Qualified across Time

Over the 1979/80 to 1995/97 period the relative size of least qualified cohorts has declined successively in both Ireland and Scotland with rising educational participation, retention and ultimately attainment: proportions leaving prior to upper second-level (LLLs) have declined from 47 to 33 per cent in Ireland, while the decline in Scotland has been from almost 70 to 58 per cent (Figures 1 and 2). Similarly, the prominence of unqualified leavers (dropouts) leaving prior to passing lower second level fell: declining from 22 to 15 per cent in Ireland and from 50 to 29 per cent in Scotland. The situation in the Netherlands is less clear: proportions leaving prior to upper second level grew over the 1989-1997 period and while the least qualified group rose between 1989 and 1993, they subsequently declined again in 1997. As noted earlier, because the Dutch survey was initiated at a later time point it is not possible to examine a time frame comparable to Scotland and Ireland.

Prominence of Least Qualified among LM Entrants

Similar patterns of growing educational attainment are evident among labour market entrants with a gradual decline in the representation of the least qualified in both Ireland and Scotland (Figures 3 and 4). The representation of LLLs has grown in the Netherlands, while the size of the least qualified dropout group remained largely unchanged between 1989 and 1997.

Figure 1: Percentage Leaving Without Passing Lower Second Level ('Dropouts')

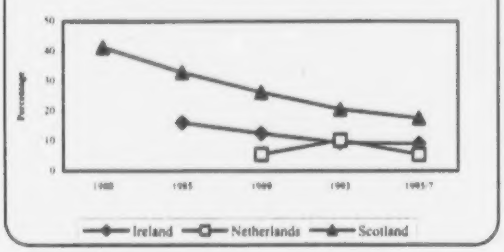


Figure 2: Percentage Leaving Prior to Upper Second Level (LLLs)

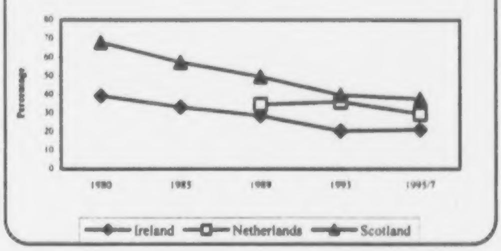


Figure 3: Percentage of LM Entrants Without Passing Lower Second Level ('Dropouts')

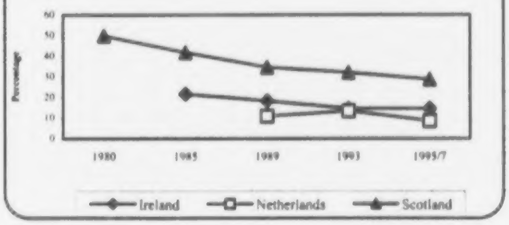
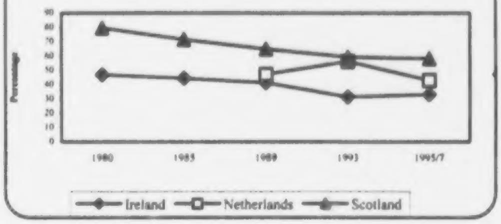


Figure 4: Percentage of LM Entrants Leaving Prior to Upper Second Level (LLLs)



4.2 Labour Market Disadvantage

4.2.1 Labour Market Integration: Unemployment

This section examines the extent to which educational differentials in labour market access mirror the wider economic climate and whether they vary according to the measure of educational disadvantage adopted. In Ireland unemployment ratios between the least qualified dropout group and those more qualified reflect cyclical influences, but differentials (odds ratios) between poorly qualified LLLs and those more qualified do not vary over the period. In the Netherlands highest unemployment levels in 1989 coincide with wide educational differentials: unemployment ratios of 3.4 for dropouts relative to those who secured upper second-level qualifications and 2.4 between LLLs and those more qualified. While unemployment rates are largely similar in 1993 and 1997, the extent of educational differentiation increases over the period: to illustrate, an unemployment odds ratio of 2.5 between dropouts and those who achieved upper second level qualifications in 1993, rises to 3.9 in 1997.

In Scotland ratios for the dropout versus more qualified groups are highest in 1979 and 1997 (times of lower unemployment), although if viewed in terms of percentage point differentials the gap is greater during periods of economic growth (1985, 1993). Again ratios for pre-upper second level versus upper second level are relatively constant over time, although percentage point differentials are highest during low unemployment periods.

Figure 5: National Unemployment Rates, Unemployment Rates of Unqualified, Lower and Upper Second Level Leavers, Ireland

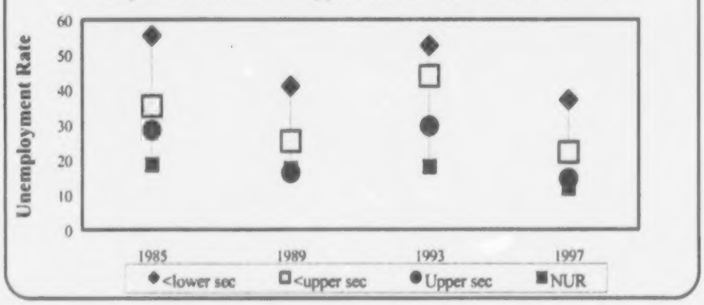


Figure 6: National Unemployment Rates, Unemployment Rates of Unqualified, Lower and Upper Second Level Leavers, Netherlands

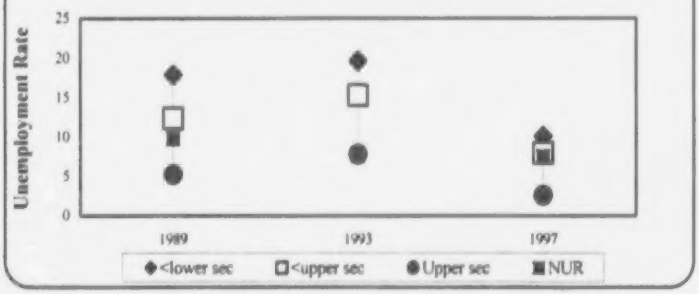
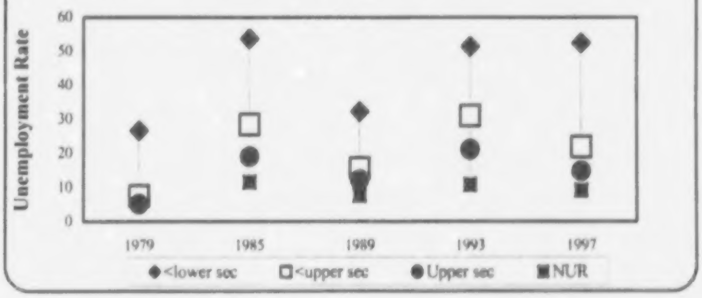


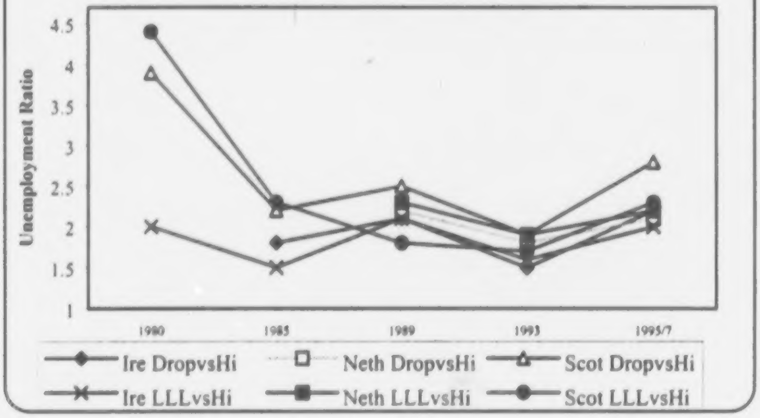
Figure 7: National Unemployment Rates, Unemployment Rates of Unqualified, Lower and Upper Second Level Leavers, Scotland



Note: NUR refers to Total National Unemployment Rates from LFS data

Overall, when viewed in terms of odds ratios, periods of economic growth such as the late 1980s and late 1990s witness the greatest educational differentials as large-scale hiring allows employers to select most qualified jobs applicants. In contrast periods of high unemployment allow the more qualified less opportunity to edge out their less qualified competitors.

Figure 8: Unemployment Odds Ratios: Dropouts and LLLs Versus More Highly Qualified, Ireland, Netherlands and Scotland



4.2.2 Employment Quality

(i) Skilled Manual Jobs

Regarding the nature of the jobs secured by differentially qualified school leavers, Figures 9 to 14 illustrate the rate of entry into skilled manual positions, while Figures 15 to 20 examine semi- and unskilled manual employment.

In Ireland the representation of the least qualified dropout group in skilled manual jobs declined over the 1980s (with a growing representation of those more qualified in such jobs – dropouts were actually outnumbered by the more qualified in 1989). The 1990s have witnessed a rising participation of all groups in skilled manual positions, this increase being particularly strong among dropouts. LLLs are more likely to enter skilled manual jobs throughout the period (this differential being largely constant): the representation of both groups in skilled manual jobs declined over the 1985 – 1993 period, but has subsequently risen quite strongly, again particularly among the less qualified (Figures 9 and 10).

Educational differentiation is apparent in the entry into skilled manual jobs in the Netherlands. LLLs are more likely to enter such jobs, with little change across time; while dropouts have similar levels of participation to those more qualified in 1989, their representation in such jobs expands greatly in 1993 and, most notably, 1997 (Figures 11 and 12).

In Scotland, interestingly, in times of low unemployment the rate of entry into skilled manual jobs rises dramatically for the least qualified (both LLL and dropout groups); the latest unemployment fall captured in 1995 was also matched by a rise in the entry of more qualified youth into skilled manual jobs. While clear differentials are evident in the educational qualifications of those entering skilled manual positions, these differentials appear reduced for the most recent years (1995) (Figures 13 and 14).

(ii) Semi- and Unskilled Manual Jobs

The period has seen growing participation in semi- and unskilled manual jobs among LLLs and those more qualified in the early 1980s in Ireland and declining participation in the 1990s this decline being particularly rapid among dropout and LLL groups (corresponding with declining unemployment) (Figures 15 and 16). Differentials between least qualified and more qualified groups are noteworthy and remain largely constant over time, although some narrowing appears for the most recent cohort.

There has been a declining entry into semi- and unskilled manual jobs among the less qualified over the 1989 – 1997 period in the Netherlands (Figures 17 and 18): the declining differential is particularly evident among the dropout group – while they were 3.5 times more likely to enter semi-/unskilled manual jobs in 1989, this declined to 2.8 in 1993 and 1.1 in 1997.

Finally, there are significant educational differentials in the entry into these jobs in Scotland. Some growth in the proportion of upper second level leavers entering such jobs is evident, corresponding with declining unemployment (Figures 19 and 20).

Figure 9: Participation in Skilled Manual Jobs (those employed full-time), LLL and More Qualified Groups, Ireland

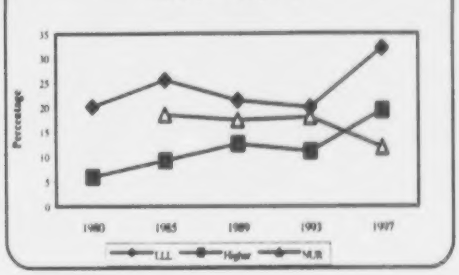


Figure 10: Participation in Skilled Manual Jobs (those employed full-time), Dropout and More Qualified Groups, Ireland

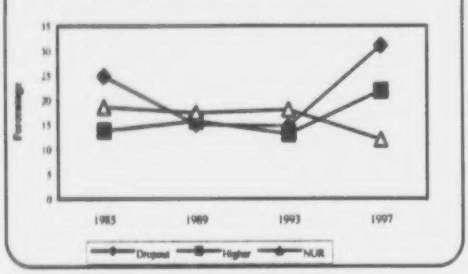


Figure 11: Participation in Skilled Manual Jobs (those employed full-time), LLL and More Qualified Groups, Netherlands

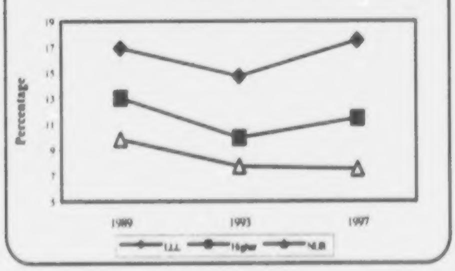


Figure 12: Participation in Skilled Manual Jobs (those employed full-time), Dropout and More Qualified Groups, Netherlands

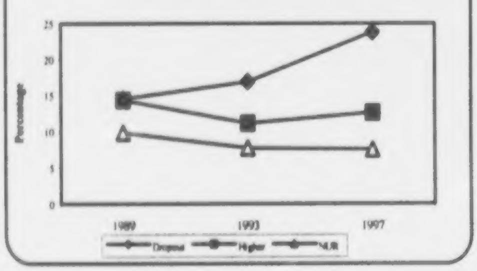


Figure 13: Participation in Skilled Manual Jobs (those employed full-time), LLL and More Qualified Groups, Scotland

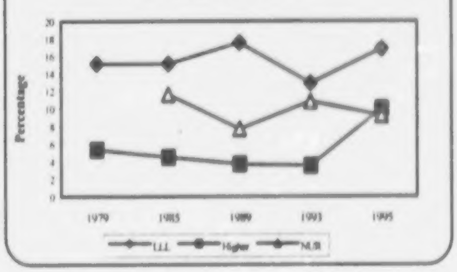


Figure 14: Participation in Skilled Manual Jobs (those employed full-time), Dropout and More Qualified Groups, Scotland

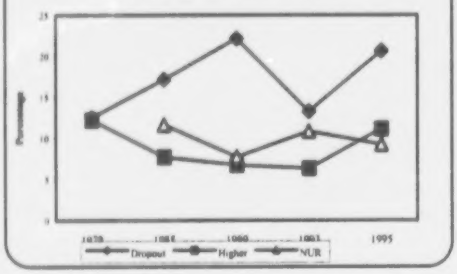


Figure 15: Participation in Semi/Unskilled Manual Jobs (those employed full-time), LLL and More Qualified Groups, Ireland

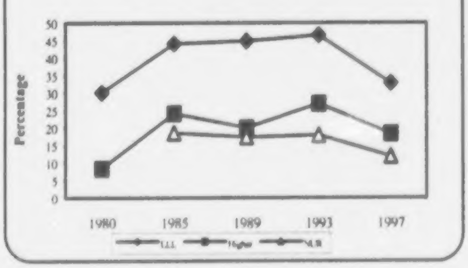
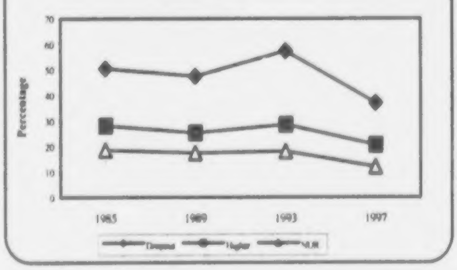


Figure 16: Participation in Semi/Unskilled Manual Jobs (those employed full-time), Dropout and More Qualified Groups, Ireland



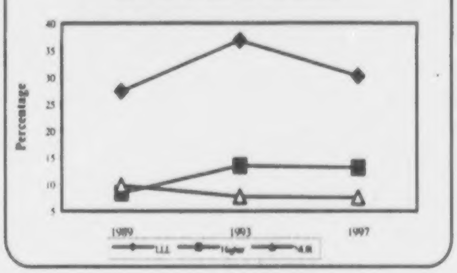


Figure 17: Participation in Semi/Unskilled Manual Jobs (those employed full-time), LLL and More Qualified Groups, Netherlands

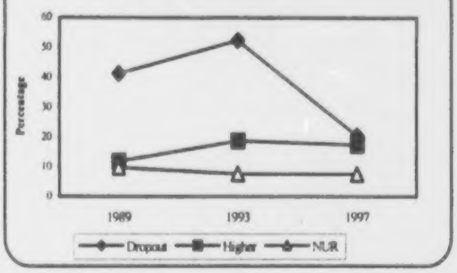


Figure 18: Participation in Semi/Unskilled Manual Jobs (those employed full-time), Dropout and More Qualified Groups, Netherlands

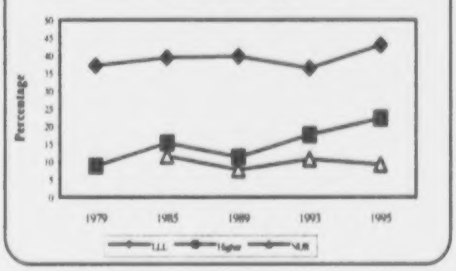


Figure 19: Participation in Semi/Unskilled Manual Jobs (those employed full-time), LLL and More Qualified Groups, Scotland

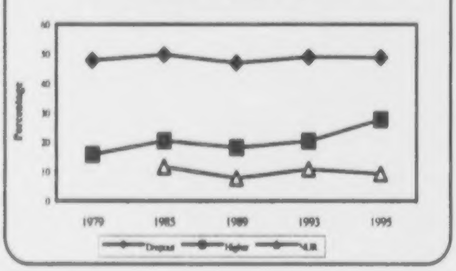


Figure 20: Participation in Semi/Unskilled Manual Jobs (those employed full-time), Dropout and More Qualified Groups, Scotland

(iii) Gordon Segment – Secondary Sector Employment

There has been a growth in the representation of upper second level leavers in secondary segment jobs in Ireland over the 1980 – 1993 period: in 1993 LLLs were no longer over-represented in such jobs. Economic growth up to 1997 led to a decline in the rate of entry into secondary sector jobs, and to the re-emergence of a small educational differential between LLLs and more qualified youth. Further analysis of these results is necessary – particularly, the types of jobs which constitute the secondary segment (the results may relate to the growth of service type jobs, particularly among those more highly qualified).

In the context of a declining unemployment rate, the rate of entry of upper and pre-upper second level leavers into secondary sector jobs has remained constant in the Netherlands, along with stable differentials between higher second level leavers and those less qualified.

In common with Ireland, the representation of more qualified upper second level leavers in secondary jobs has grown over the last decades in Scotland: a small decline in the rate of entry of LLLs into secondary sector jobs has been paralleled by rising participation of more qualified youth. As a result, in 1995 there is no longer a significant difference in the rate of entry of LLLs and their more qualified peers into such jobs.

Figure 21: Proportion in Secondary Segment Jobs by Qualification Level, Ireland

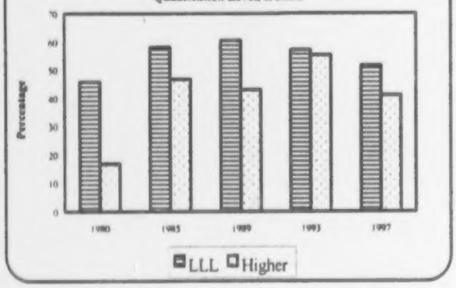


Figure 22: Proportion in Secondary Segment Jobs by Qualification Level, Netherlands

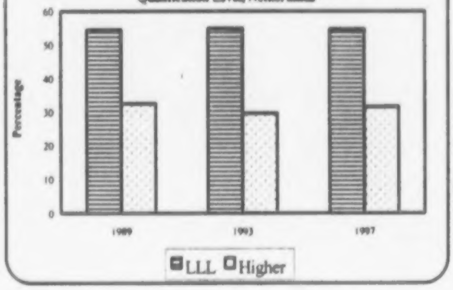
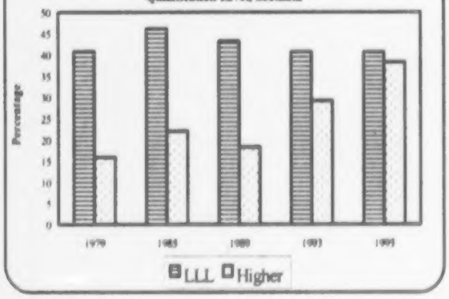


Figure 23: Proportion in Secondary Segment Jobs by Qualification Level, Scotland



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5 EMPLOYMENT ACCESS AND EMPLOYMENT QUALITY MODELLING

5.1 Employment Access/Exclusion: Unemployment Odds

The results show clear differentials in unemployment odds between educational attainment groups: pre-lower second level leavers have the highest unemployment, those who passed lower second level are relatively less at risk of unemployment than those who failed upper second level; while those who successfully passed upper second level have lowest levels of unemployment. In addition, LLLs in the Netherlands are relatively less at risk of unemployment while dropouts in Scotland are at greater risk. Hence the overall level of disadvantage, in terms of labour market access, experienced by the least qualified is highest in Scotland and lowest in the Netherlands.

The extent to which the experiences of the least qualified vary over time is the main concern here. In Scotland dropouts are less disadvantaged in 1985, 1989 and 1993 relative to 1980; 1997 is not significantly different to 1980. Hence, educational differentiation declines between 1980 and 1993. In the Netherlands dropouts have lower relative unemployment risk in 1997 relative to 1989 - again, the level of educational structuring declines over the period. In Ireland the relative experience of dropouts improves in 1993, relative to 1985.

Hence, these results suggest declining relative disadvantage over time (in terms of labour market access) among the least qualified in both Scotland and the Netherlands. In addition, the extent of differentiation does not appear to vary consistently according to the wider economic climate – in Scotland, for example, the unemployment differentials fall in both 1989 and 1993, times of economic growth and decline, respectively. Some narrowing in the differentials between the least and more highly qualified groups is also apparent between 1985 and 1993 in Ireland – however, rapid economic growth in the period to 1997 does not produce a significant change in the nature of educational disadvantage, contrary to expectations.

5.2 Employment Quality

(i) Manual Employment Odds

Entry into manual employment is, as expected, higher among males and those in Ireland, while such occupations are least dominant among school leavers in the

Netherlands. Changes in the rate of entry into such jobs varies over time across countries: in Scotland entry into these jobs declines between 1989/1993 and 1980; in the Netherlands such occupations increase in importance for school leavers between 1989 and 1993; conversely in Ireland some fall in the entry into such jobs is apparent in 1997. Educational effects are largely as expected with success in examinations and higher educational attainment reducing the rate of entry into manual positions.

Effects of least qualified status also show cross-institutional variation: in Scotland dropouts and LLLs have higher manual job odds, while in the Netherlands dropouts have higher odds, relative to Ireland. The employment experiences of the least qualified exhibit some important changes over time: in Scotland dropouts' risk of entry into manual work declines between 1980 and 1997; in the Netherlands there is also declining differentiation between 1989 and 1997; however, there is no change over time in Ireland.

(ii) Skilled Manual Employment Odds

Participation in skilled manual jobs is lower among females and among Scottish leavers relative to Ireland. Across time entry into skilled manual jobs declines in Scotland and the Netherlands, while skilled manual employment rises in 1997 in Ireland relative to 1985. As expected, higher skilled manual employment arises among lower second level leavers and those who depart pre-lower second level. In addition, the least qualified groups in Scotland have higher relative skilled manual odds, while poorly qualified LLLs in the Netherlands have lower relative skilled manual odds.

An examination of the extent of educational differentiation over time reveals some interesting findings. In Scotland dropouts' relative entry into skilled manual jobs rises between 1980, 1985 and 1989, although there is no significant change thereafter. Similar results occur for the Netherlands: a rise in the relative entry into skilled manual jobs among dropouts occurs between 1989, 1993 and 1997. In contrast there are no significant changes over the period in the relative representation of the least qualified in skilled manual jobs in Ireland.

(iii) Secondary Segment Employment Odds

School leavers' entry into secondary segment jobs displays similar gender and educational differentiation. Females have lower entry into secondary jobs, while participation in such jobs is also significantly lower in Scotland and the Netherlands. Over time secondary segment risk in Scotland declines in 1989 and rises in 1997, while entry into such jobs declines in Ireland in 1997, in line with economic growth. There are no significant changes in the overall rate of entry into these jobs in the Netherlands.

Least qualified groups are, as expected, over-represented among secondary segment employees. In addition, the levels of secondary segment employment among poorly and unqualified leavers are relatively higher in both Scotland and the Netherlands, compared to Ireland. The extent of educational differentiation changes over time in both Scotland and Ireland: in Scotland there is a higher risk of secondary segment employment among the least qualified in 1980, with significant declines in 1993 and 1997; similarly there are declines in the representation of the less qualified in secondary jobs in Ireland in 1993, relative to 1985.

(iv) Social Class and Industrial Sector

Tables 5a and 5b display the social class position of school leavers during this initial period of labour market entry. The representation of the least qualified in *service class* positions does not vary significantly cross-nationally. Trends over time in service class employment show some cross-national differences: the poorly qualified have greater representation in 1997, and most notably 1993, relative to 1980 in Scotland; LLL and dropouts' representation falls in 1993 and rises in 1997 relative to 1989 in the Netherlands.

The level of entry of LLLs into *routine non-manual* rather than semi- and unskilled manual positions is lower in both Scotland and the Netherlands than Ireland – the least qualified are most disadvantaged in Ireland. Over time LLLs taking up routine non-manual jobs rises in Scotland (between 1980 and 1985, 1993 and 1997) and also rises between 1989 and 1993 in the Netherlands.

The representation of the least qualified in *self-employment* does not vary cross-nationally or across time (with the exception of lower rates of entry among dropouts in the Netherlands).

Entry into *skilled manual* (as opposed to semi- or unskilled manual positions) is lower among LLLs and dropouts in the Netherlands. The extent of differentiation declines over time in Scotland, particularly for dropouts whose entry into skilled manual positions increases over the 1980 to 1997 period. Similarly the representation of LLLs and dropouts among skilled manual employees rises between 1989 and 1993/1997 in the Netherlands. With the exception of reduced entry of LLLs in 1989 (relative to 1985), the relative rate of entry into skilled manual positions does not change significantly over time in Ireland.

Tables 6a and 6b display models of educational differentiation in the industrial sector in which school leavers work. In general, there has been declining entry into *finance/public administration* and *professional service* positions over time, with entry into these sectors strongly differentiated according to educational attainment, as expected. Educational structuring has declined over time in Scotland and the Netherlands – with increasing rates of entry among LLL and dropouts groups in Scotland and the Netherlands; there has also been an increasing entry of the dropout group into finance/public administration in Ireland (particularly in 1993). Entry of the least qualified into *agricultural* sectors (relative to manufacturing/construction) has declined in the Netherlands. Significant increases in the levels of professional service and finance/public administration employment among the least qualified in Scotland are apparent, particularly for the most recent time-point. Finally, entry into *other services sectors* rose among the least qualified in Scotland in 1985; among LLLs in the Netherlands in 1997 and among dropouts in Ireland in 1989.

(v) Occupational Status

Table 7 shows little variation in the occupational status of the least qualified groups cross-nationally, with the exception of higher relative status among LLLs in the Netherlands. Over time dropouts experience rising relative occupational status in the Netherlands (but there is no change over time in the experiences of LLLs – not shown); there is no change over time in Scotland; and dropouts have higher status in 1993 (relative to 1985) in Ireland.

6 Curriculum Type Effects: Ireland and the Netherlands

Finally, a brief examination of the role and effects of vocational curriculum participation: to what extent does this type of curriculum promote the attainment of relevant skills for the less academically motivated and, consequently, promote successful labour market integration and the avoidance of unskilled manual positions? To what extent has the influence of curriculum type on labour market integration and employment quality changed over time in Ireland and the Netherlands?

6.1 Unemployment Risk

The results indicate greater unemployment disadvantage for the least qualified in the Netherlands in 1997 relative to 1989; similarly in Ireland greater educational differentials emerge in 1989 compared to 1985. Overall, the effects of vocational curriculum participation on unemployment risk does not vary across time in the Netherlands; in Ireland vocational curriculum participation reduces relative unemployment risk in 1997 compared to 1985. In examining the relative experiences of the least qualified, the unemployment risk of LLLs increases in 1997 in the Netherlands, while the relative risk for least qualified who participate in such courses is greater in 1989 and 1997 in Ireland, relative to 1985.

However, there could be a selection effect operating in Ireland. While there was rising participation in vocational courses over the period 1989 to 1993; with the abolition of vocational courses for leavers at the Junior Certificate level in the mid 1990s, participation rates declined and the balance of intake to vocational courses shifted towards more qualified leavers. Hence, the least qualified who participate in these courses for the latest time point are a smaller group (just 8 per cent, compared to 34% in 1993) and are more likely to be a more negatively selected group. However, this does not explain the greater disadvantage experienced by LLLs in 1989 – a time when a large proportion of this group (over one-third) participated in such courses. Rather the deterioration in the relative experiences of LLLs who participate in vocational courses may relate to changes in the operation and organisation of these courses.

The proportion participating in a vocational curriculum in the Netherlands does not change over the period (approximately two-thirds participate).

6.2 Skilled Manual Employment

Participation in skilled manual employment is relatively lower in 1993 and 1997 in the Netherlands compared to 1989 while the proportion engaging in such jobs is higher in Ireland in 1997 compared to 1985. Entry into these jobs is also higher among lower second level leavers and those who left prior to lower secondary, respectively. The proportion of LLLs entering these jobs declines over time in Ireland.

Relative to 1985 in Ireland, skilled manual employment is higher among vocational course participants in the Netherlands in 1997, 1993 and, most notably, 1989; there is also higher entry into such jobs among vocational course participants in Ireland in 1997 compared to 1985. The effects of vocational course participation according to educational attainment do not vary over time in the Netherlands; in Ireland LLLs who participated in a vocational curriculum have reduced skilled manual employment in 1993 and 1997 compared to the mid-1980s.

6.3 Secondary Segment Employment

Secondary segment employment is higher in the Netherlands and declines over the 1989-1993/97 period in the Netherlands; secondary segment employment higher in 1993 than 1985 in Ireland. Least qualified in the Netherlands have higher secondary segment odds than in Ireland; with rising secondary segment risk over time for the least qualified in the Netherlands.

Again with a reference category of 1985 in Ireland, vocational curriculum participants have higher relative secondary segment employment in 1989 in the Netherlands, while entry into such jobs is significantly lower in 1993 and 1997. Entry into secondary jobs among vocational curriculum participants in Ireland declines in 1993. LLLs participating in a vocational curriculum have significantly higher secondary segment employment in the Netherlands in 1993 compared to Ireland; such employment is also higher among LLLs who participate in vocational courses in

Ireland in 1993 compared to 1985. This suggests some deterioration in the relative position of poorly qualified leavers in the two countries.

7 Summary and Conclusions

7.1 Summary

To summarise the main trends over time in the relative disadvantage of the least qualified. Firstly, in terms of *labour market access*, the least qualified in Scotland experience greater employment access difficulties, while the poorly qualified in the Netherlands are less disadvantaged, relative to Ireland. Inequalities in terms of employment access appear to have declined over the period – this decline being most evident in Scotland and the Netherlands. Hence, the degree of disadvantage experienced by the least qualified appears to have *declined* over time, particularly in Scotland and the Netherlands.

With regard to *employment quality*, trends vary depending on whether social class, occupational segment or other measures are used. In terms of manual employment, for example, the extent of educational differentiation is greater in Scotland and the Netherlands, relative to Ireland. Over time, the level of educational differentiation in the entry into such jobs declines in both Scotland and the Netherlands. Conversely, skilled manual employment (relative to any other type of employment) shows a relative rise in the representation of the least qualified in both Scotland and the Netherlands, relative to Ireland. Hence, falling manual employment by less qualified groups in Scotland and the Netherlands is largely capturing a decline in their entry into unskilled manual positions, with a rise in their representation in skilled manual jobs in these countries compared to Ireland. While there is no significant variation across countries in the representation of the least qualified in service class jobs, again declining educational differentiation emerges in Scotland and the Netherlands (1997 only) with rising representation of the least qualified. Similarly, the relative of entry of least qualified into routine non-manual jobs rises over time in Scotland and the Netherlands.

Overall, there is a greater representation of the poorly qualified in secondary segment jobs in Scotland and the Netherlands, relative to Ireland. However, the risk of secondary segment employment has declined for least qualified in Scotland; although for this measure there is also declining differentiation in Ireland and there is no significant change over time in the Netherlands.

Similar findings concerning industrial sector emerge: finance/public administration and professional services show an increase in the relative entry of the least qualified in Scotland and the Netherlands over time. Occupational status also shows rising occupational status among dropouts in the Netherlands over the period and higher status among dropouts in 1993 relative to 1985 in Ireland.

Finally, the analysis of curriculum type effects – particularly the influence of vocational curriculum participation on protecting against semi- and unskilled manual employment, by promoting entry into skilled manual jobs (Ireland and the Netherlands only). Firstly, in Ireland participation in a vocational curriculum has the effect of reducing relative unemployment risk between 1985 and 1997 – however, it is noted that this may arise due to a selection effect with increasing representation of Leaving Certificate pupils among vocational course participants over time. Overall, entry into skilled manual jobs among 'vocational' leavers appears to have increased over the period in both countries, although the less qualified who participate in such courses in Ireland have reduced entry into skilled manual jobs. Fianlly, in terms of participation in secondary segment jobs, some deterioration in the relative position of poorly qualified leavers who participate in vocational courses emerges over the period.

Table 1: Log Odds of Unemployment Vs Employment

(for those in the Labour Market)

Variable	M1	M2	M3	M4
Constant	-0.91***	-1.35***	-1.29***	-1.33***
Female	0.01	0.10***	-0.09**	0.09**
Country:				
Scotland	-1.17***	-1.50***	-1.64***	-1.95***
Netherlands	-1.83***	-1.68***	-1.74***	-1.73***
Country by Time:				
Scotland 1985	0.75***	0.85***	0.86***	1.21***
Scotland 1989	-0.17*	-0.03	-0.01	0.47***
Scotland 1993	0.62***	0.80***	0.83***	1.33***
Scotland 1997	0.40***	0.61***	0.64***	0.86***
Netherlands 1993	0.21***	0.18**	0.18***	0.22***
Netherlands 1997	-0.42***	-0.39***	-0.39***	-0.33***
Ireland 1989	-0.50***	-0.47***	-0.47***	-0.48***
Ireland 1993	0.13	0.24**	0.22**	0.30**
Ireland 1997	-0.76***	-0.68***	-0.69***	-0.64***
Educational Level:				
< lower sec	-	1.17***	1.01***	1.14***
Passed Lower Sec	-	0.32***	0.24***	0.25***
Failed Upper Sec	-	0.35***	0.37***	0.36***
Country by Least Qualified:				
Scotland LLL	-	-0.06	-	-
Netherlands LLL	-	-0.17*	-	-
Scotland Dropout	-	-	0.22*	0.57***
Netherlands Dropout	-	-	-0.17	-0.14
*Country*Dropout*Time:*				
Scotland Dropout 1985	-	-	-	-0.47***
Scotland Dropout 1989	-	-	-	-0.75***
Scotland Dropout 1993	-	-	-	-0.84***
Scotland Dropout 1997	-	-	-	-0.20
Netherlands Dropout 1993	-	-	-	-0.19
Netherlands Dropout 1997	-	-	-	-0.39*
Ireland Dropout 1989	-	-	-	0.02
Ireland Dropout 1993	-	-	-	-0.38*
Ireland Dropout 1997	-	-	-	-0.19

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

Table 2: Log Odds of Manual Job Vs Other

(for those whose principal activity is employment)

Variable	M1	M2	M3	M4
Constant	0.78***	0.27**	0.27**	0.23*
Female	-1.53***	-1.53***	-1.53***	-1.53***
Country:				
Scotland	-0.23*	-1.23***	-1.04**	-1.02***
Netherlands	-0.88***	-0.89***	-0.93***	-0.88***
Country by Time:				
Scotland 1985	-0.08	0.20*	0.19**	0.20*
Scotland 1989	-0.42***	0.04	0.01	-0.06
Scotland 1993	-0.41***	0.05	0.02	0.11
Scotland 1997	0.02	0.57***	0.53***	0.65***
Netherlands 1993	0.34***	0.29***	0.28***	0.24***
Netherlands 1997	-0.03	0.14**	0.15**	0.16**
Ireland 1989	-0.17	-0.14	-0.13	-0.08
Ireland 1993	-0.13	0.04	0.04	0.09
Ireland 1997	-0.23*	-0.09	-0.09	-0.03
Educational Level:				
< lower sec	-	1.63***	1.30***	1.60***
Passed Lower Sec	-	0.91***	1.11***	1.12***
Failed Upper Sec	-	0.47***	0.44***	0.44***
Country by Least Qualified:				
Scotland LLL	-	0.61***	-	-
Netherlands LLL	-	0.08	-	-
Scotland Dropout	-	-	0.82***	0.58*
Netherlands Dropout	-	-	0.44**	0.07
*Country*Dropout*Time:*				
Scotland Dropout 1985	-	-	-	-0.02
Scotland Dropout 1989	-	-	-	0.30
Scotland Dropout 1993	-	-	-	-0.31
Scotland Dropout 1997	-	-	-	-0.60**
Netherlands Dropout 1993	-	-	-	0.33*
Netherlands Dropout 1997	-	-	-	-0.63**
Ireland Dropout 1989	-	-	-	-0.35
Ireland Dropout 1993	-	-	-	-0.35
Ireland Dropout 1997	-	-	-	-0.49

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

Table 3: Log Odds of Skilled Manual Vs Other Job

(for those whose principal activity is employment)

Variable	M1	M2	M3	M4
Constant	-0.97***	-1.25***	-1.20***	-1.27***
Female	-1.59***	-1.56***	-1.55***	-1.55***
Country:				
Scotland	-0.26*	-0.95***	-0.53***	-0.27
Netherlands	-0.10	0.04	0.08	0.02
Country by Time:				
Scotland 1985	-0.18	-0.08	-0.11	-0.42**
Scotland 1989	-0.31*	-0.10	-0.18	-0.66***
Scotland 1993	-0.59***	-0.38**	-0.46**	-0.67***
Scotland 1997	-0.07	0.16	0.07	-0.11
Netherlands 1993	-0.19**	-0.21**	-0.23***	-0.27***
Netherlands 1997	-0.21**	-0.19**	-0.18**	-0.25***
Ireland 1989	-0.03	0.01	-0.01	0.10
Ireland 1993	-0.23	-0.14	-0.15	-0.03
Ireland 1997	0.39**	0.47**	0.45**	0.51**
Educational Level:				
< lower sec	-	0.43***	0.26**	0.59*
Passed Lower Sec	-	0.58***	0.53***	0.52***
Failed Upper Sec	-	0.16*	0.10	0.10
Country by Least Qualified:				
Scotland LLL	-	0.71***	-	-
Netherlands LLL	-	-0.26*	-	-
Scotland Dropout	-	-	0.43**	-0.31
Netherlands Dropout	-	-	0.05	-0.56*
*Dropout*Country*Time:*				
Scotland Dropout 1985	-	-	-	0.68**
Scotland Dropout 1989	-	-	-	1.20***
Scotland Dropout 1993	-	-	-	0.50
Scotland Dropout 1997	-	-	-	0.41
Netherlands Dropout 1993	-	-	-	0.38*
Netherlands Dropout 1997	-	-	-	0.97***
Ireland Dropout 1989	-	-	-	-0.56
Ireland Dropout 1993	-	-	-	-0.70
Ireland Dropout 1997	-	-	-	-0.24

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

Table 4: Log Odds of Secondary Segment Employment

(for those whose principal activity is employment)

Variable	M1	M2	M3	M4
Constant	0.10	-0.24**	-0.38***	-0.40***
Female	-0.09***	0.03	0.03	0.03
Country:				
Scotland	-0.71***	-1.36***	-1.31***	-1.43***
Netherlands	-0.45***	-0.64***	-0.47***	-0.45***
Country by Time:				
Scotland 1985	0.08	0.25***	0.27***	0.40***
Scotland 1989	-0.19*	0.08	0.11	0.18
Scotland 1993	0.03	0.31***	0.35***	0.56***
Scotland 1997	0.23**	0.52***	0.56***	0.90***
Netherlands 1993	0.01	-0.06	-0.05	-0.04
Netherlands 1997	-0.03	-0.01	-0.01	-0.01
Ireland 1989	-0.09	-0.07	-0.05	-0.08
Ireland 1993	0.19	0.27*	0.33**	0.40**
Ireland 1997	-0.30**	-0.24*	-0.20*	-0.18
Educational Level:				
< lower sec	-	0.87***	0.97***	1.06***
Passed Lower Sec	-	0.31***	0.85***	0.86***
Failed Upper Sec	-	0.60***	0.60***	0.60***
Least Qualified by Country:				
Scotland LLL	-	0.51***	-	-
Netherlands LLL	-	0.62***	-	-
Scotland Dropout	-	-	0.57***	0.74**
Netherlands Dropout	-	-	0.39**	0.32
*Country*Dropout*Time:*				
Scotland Dropout 1985	-	-	-	-0.26
Scotland Dropout 1989	-	-	-	-0.05
Scotland Dropout 1993	-	-	-	-0.59**
Scotland Dropout 1997	-	-	-	-1.18***
Netherlands Dropout 1993	-	-	-	-0.06
Netherlands Dropout 1997	-	-	-	0.02
Ireland Dropout 1989	-	-	-	0.22
Ireland Dropout 1993	-	-	-	-0.67*
Ireland Dropout 1997	-	-	-	-0.11

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

Table 5a: Multinomial Logit Model of Social Class of Entry.

(for those whose principal activity is employment)

Variable	Service classes	Routine non-manual classes	Petty bourgeoisie	Skilled manual class
Constant	-0.85***	-0.13	-1.99***	-0.59**
Female	0.76***	1.42***	-0.44**	-0.67***
Country:				
Scotland	1.20***	1.68***	-0.51	0.35
Netherlands	1.35***	1.42***	-0.98*	1.31***
Country by Time:				
Scotland 1985	-1.01***	-0.71***	-1.04	-0.65*
Scotland 1989	-0.51*	-0.18	-0.75	-0.58
Scotland 1993	-2.16***	-0.66***	-1.07	-1.06**
Scotland 1997	-1.70***	-1.09***	-1.24	-0.27
Netherlands 1993	-0.74***	-0.59***	-2.14**	-0.72***
Netherlands 1997	-0.37***	-0.58***	1.80***	-0.63***
Ireland 1989	-0.06	0.39*	-1.18*	0.43
Ireland 1993	-0.80***	0.01	-0.72	0.06
Ireland 1997	-0.26	0.45**	-0.47	0.94***
Educational Level:				
< Lower Sec	-4.14***	-1.51***	-2.18**	-0.03
Passed Lower Sec	-3.03***	-0.67***	-1.76*	0.49*
Failed Upper Sec	-1.06***	-0.49***	-0.11	-0.29**
Country by LLL:				
Scotland LLL	-0.03	-1.10***	-0.24	-0.54
Netherlands LLL	-1.30	-0.62**	1.02	-1.30***
*Country*LLL*Time*				
Scotland LLL 1985	0.56	0.61**	0.99	0.52
Scotland LLL 1989	-0.41	0.06	1.09	0.55
Scotland LLL 1993	2.46***	0.76***	1.62	0.80*
Scotland LLL 1997	1.17*	0.79***	2.51*	0.07
Netherlands LLL 1993	-1.13***	0.28*	0.22	0.28*
Netherlands LLL 1997	0.49**	0.21	-0.54	0.42**
Ireland LLL 1989	0.05	-0.33	1.73	-0.64*
Ireland LLL 1993	1.12	0.07	1.45	-0.32
Ireland LLL 1997	1.33	0.02	2.36*	-0.51

Base Category: Semi/Unskilled Manual Class, Male, Ireland 1985, Pass upper secondary education

***p<.001, **p<.01, *p<.05

Table 5b: Multinomial Logit Model of Social Class of Entry.

(for those whose principal activity is employment)

Variable	Service classes	Routine non-manual classes	Petty bourgeoisie	Skilled manual class
Constant	-0.77***	-0.09	-2.33***	-0.30*
Female	0.75***	1.41***	-0.44**	-0.67***
Country:				
Scotland	0.87***	1.31***	-0.75	0.02
Netherlands	1.29***	1.26***	-0.46	0.98***
Country by Time:				
Scotland 1985	-0.65***	-0.32**	-0.40	-0.55***
Scotland 1989	-0.47*	-0.09	-0.24	-0.60***
Scotland 1993	-1.48***	-0.25*	-0.26	-0.73***
Scotland 1997	-1.37***	-0.79***	-0.20	-0.47**
Netherlands 1993	-0.85***	-0.49***	-2.20***	-0.67***
Netherlands 1997	-0.37***	-0.56***	1.59***	-0.58***
Ireland 1989	-0.25	0.13	-0.76	0.02
Ireland 1993	-0.85***	-0.08	-0.39	-0.24
Ireland 1997	-0.33	0.32**	0.16	0.56***
Educational Level:				
< Lower Sec	-4.44***	-1.87***	-1.00*	-0.78***
Passed Lower Sec	-2.69***	-0.86***	-0.28	0.15*
Failed Upper Sec	-1.06***	-0.49***	-0.13	-0.29***
Country by Dropout:				
Scotland Dropout	0.31	-0.49***	-0.68	0.08
Netherlands Dropout	0.91*	-0.25*	-0.90*	-0.76***
*Country*Dropout*Time*				
Scotland Dropout 1985	-0.36	0.14	0.08	0.70***
Scotland Dropout 1989	-0.54	-0.07	0.48	1.03***
Scotland Dropout 1993	2.33***	0.31	0.60	0.58*
Scotland Dropout 1997	0.68	0.73**	1.56	0.74**
Netherlands Dropout 1993	-1.48*	0.07	1.26	0.58***
Netherlands Dropout 1997	3.20***	0.92**	0.95	1.83***
Ireland Dropout 1989	1.03	0.64	0.30	0.12
Ireland Dropout 1993	2.04*	0.59	0.34	0.10
Ireland Dropout 1997	2.23*	0.70*	0.70	0.49

Base Category: Semi/Unskilled Manual Class, Male, Ireland 1985, Pass upper secondary education

***p<.001, **p<.01, *p<.05

Table 6a: Multinomial Logit Model of Industrial Sector

(for those whose principal activity is employment)

	Agric-ulture	Distribution	Finance/ public admin	Prof Services	Other services
Constant	-0.99***	-0.15	-0.91***	-1.03***	-0.64***
Female	-0.82***	0.95***	0.74***	1.83***	0.88***
Country:					
Scotland	-0.38	-0.68**	1.78***	0.13	-0.27
Netherlands	-0.56*	-0.26	0.39*	0.71***	0.14
Country by Time:					
Scotland 1985	-0.60	0.33	-0.42*	-0.58**	0.17
Scotland 1989	-0.60	0.07	0.04	-0.51*	0.01
Scotland 1993	0.41	0.87***	-0.08	-0.70*	1.11***
Scotland 1997	0.23	0.57**	-0.70***	-1.07***	0.47*
Netherlands 1993	0.23	0.11	-0.35***	-0.37***	-0.02
Netherlands 1997	0.84***	0.20**	-0.43***	-0.36***	-0.06
Ireland 1989	-0.72*	-0.30	-0.43	-0.64**	-0.05
Ireland 1993	-0.84*	-0.12	-1.17***	-0.57**	0.32
Ireland 1997	-1.03**	-0.45*	-0.97***	-0.91***	-0.36
Educational Level:					
< Lower Sec	-0.31	-0.83***	-2.85***	-3.43***	-0.72**
Passed Lower Sec	-0.06	-0.57**	-1.48***	-2.75***	-0.27
Failed Upper Sec	-0.20	0.08	-0.63***	-0.68***	0.03
Country by LLL:					
Scotland LLL	-0.84*	0.31	-0.79	0.44	-0.45
Netherlands LLL	0.17	0.89***	0.38	0.83	-0.26
*Country*LLL*Time*					
Scotland LLL 1985	1.04*	-0.19	0.81***	0.27	0.68**
Scotland LLL 1989	1.25*	0.05	0.84***	0.21	0.30
Scotland LLL 1993	0.10	-0.22	0.49	1.07*	-0.02
Scotland LLL 1997	0.86*	-0.65*	1.29***	1.58***	0.33
Netherlands LLL 1993	-1.02***	-0.23*	0.25	0.25	0.15
Netherlands LLL 1997	-0.45*	-0.09	0.76***	1.04***	0.40**
Ireland LLL 1989	0.53	0.45	-0.48	1.22*	0.13
Ireland LLL 1993	1.06*	0.13	0.98	1.13	-0.35
Ireland LLL 1997	0.06	0.39	0.83	0.63	0.38

Base Category: Manufacturing/ Construction, Male, the Netherlands, Pass upper secondary education

***p<.001, **p<.01, *p<.05

Table 6b: Multinomial Logit Model of Industrial Sector
(for those whose principal activity is employment)

	Agric-ulture	Distrib-ution	Finance/ public admin	Prof Services	Other services
Constant	-1.25***	-0.24*	-0.95***	-1.10***	-0.62***
Female	-0.82***	0.95***	0.73***	1.82***	0.88***
Country:					
Scotland	-0.64*	-0.44**	1.66***	0.08	-0.36*
Netherlands	-0.25	-0.14	0.36*	0.73***	0.05
Country by Time:					
Scotland 1985	0.21	0.23	-0.17	-0.40**	0.40**
Scotland 1989	0.16	0.09	0.30*	-0.33	0.08
Scotland 1993	0.82***	0.60***	-0.02	-0.63**	1.03***
Scotland 1997	0.95***	0.23	-0.40**	-0.68***	0.55***
Netherlands 1993	0.10	0.05	-0.27***	-0.35***	0.05
Netherlands 1997	0.83***	0.16*	-0.27***	-0.19**	0.12
Ireland 1989	-0.32	-0.18	-0.45*	-0.53**	-0.09
Ireland 1993	-0.35	-0.05	-1.12***	-0.47*	0.27
Ireland 1997	-0.84**	-0.33*	-0.88***	-0.83***	-0.35*
Educational Level:					
< Lower Sec	0.42	-0.61***	-3.42***	-3.37***	-0.93***
Passed Lower Sec	0.08	-0.40***	-1.41***	-2.10***	-0.30*
Failed Upper Sec	-0.21	0.08	-0.63***	-0.68***	0.03
Country by Dropout:					
Scotland Dropout	-0.74**	-0.08	-0.35	0.27	-0.23
Netherlands Dropout	-0.30	0.65***	0.65*	0.60*	0.05
*Country*Dropout*Time*					
Scotland Dropout 1985	0.05	-0.13	1.07***	-0.08	0.66**
Scotland Dropout 1989	0.48	0.19	0.83**	-0.51	0.46
Scotland Dropout 1993	-0.56	0.29	1.05*	1.83***	0.27
Scotland Dropout 1997	-0.03	-0.04	1.67***	1.46**	0.46
Netherlands Dropout 1993	-4.12***	-0.34**	-0.30	0.77**	-0.14
Netherlands Dropout 1997	-2.97***	-0.02	1.86***	1.15***	0.14
Ireland Dropout 1989	-0.23	0.41	0.87	1.25	0.75*
Ireland Dropout 1993	0.30	-0.04	2.68***	1.12	-0.41
Ireland Dropout 1997	-0.35	0.28	2.04**	1.04	0.96

Base Category: Manufacturing/ Construction, Male, the Netherlands, Pass upper secondary education

***p<.001, **p<.01, *p<.05

Table 7: Regression: Occupational Status

(for those whose principal activity is employment)

Variable	M1	M2	M3	M4
Constant	33.40***	36.28***	36.02***	36.27***
Female	3.99***	3.36***	3.37***	3.37***
Country:				
Scotland	1.39**	3.14***	3.40***	3.20***
Netherlands	4.74***	4.04***	4.33***	4.22***
Country by Time:				
Scotland 1985	-0.41	-1.30***	-1.30***	-1.40**
Scotland 1989	0.75*	-0.74*	-0.74*	-0.83
Scotland 1993	1.28**	-0.24	-0.23	-0.24
Scotland 1997	0.02	-1.51***	-1.50***	-1.63**
Netherlands 1993	-0.33	-0.05	-0.04	-0.22
Netherlands 1997	-1.74***	-1.91***	-1.91***	-2.16***
Ireland 1989	0.68	0.40	0.43	0.32
Ireland 1993	-0.45	-1.31*	-1.22*	-1.71**
Ireland 1997	1.27*	0.47	0.55	0.19
Educational Level:				
< lower sec	-	-7.89***	-7.43***	-9.01***
Passed Lower Sec	-	-4.81***	-4.03***	-4.03***
Failed Upper Sec	-	-1.60***	-1.60***	-1.61***
Country Least Qualified:*				
Scotland LLL	-	0.87	-	-
Netherlands LLL	-	0.87*	-	-
Scotland Dropout	-	-	0.46	1.90
Netherlands Dropout	-	-	0.24	0.46
*Dropout*Country*Time:*				
Scotland Dropout 1985	-	-	-	0.28
Scotland Dropout 1989	-	-	-	0.30
Scotland-Dropout 1993	-	-	-	-0.08
Scotland Dropout 1997	-	-	-	0.50
Netherlands Dropout 1993	-	-	-	1.67**
Netherlands Dropout 1997	-	-	-	3.18***
Ireland Dropout 1989	-	-	-	0.57
Ireland Dropout 1993	-	-	-	3.84*
Ireland Dropout 1997	-	-	-	2.72

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

Curricular Type Effects: Vocational Curriculum Beneficial for Least Qualified?

Table 8: Log Odds of Unemployment Vs Employment

(for those in the Labour Market), Ireland and the Netherlands

Variable	M1	M2	M3	M4
Constant	-1.72***	-2.23***	-2.16***	-2.17***
Female	-0.05	0.03	0.03	0.03
Country:				
Netherlands	-1.22***	-0.86***	-0.93***	-1.18***
Country by Time:				
Netherlands 1993	0.25***	0.27***	0.31***	0.52
Netherlands 1997	-0.55***	-0.53***	-0.68***	-0.09
Ireland 1989	0.23**	0.50***	0.30*	0.39**
Ireland 1993	0.93***	1.23***	1.10***	1.07***
Ireland 1997	0.22**	0.32***	0.16	0.38*
Educational Level:				
< lower sec	-	0.99***	0.89***	0.89***
Passed Lower Sec	-	0.20***	0.09	0.09
Failed Upper Sec	-	0.21**	0.19**	0.19**
Country by Least Qualified:				
Netherlands LLL	-	0.01	0.10	0.38
*Country*LLL*Time:*				
Netherlands LLL 1993	-	-	-0.15	-0.18
Netherlands LLL 1997	-	-	0.47**	-1.94
Ireland LLL 1989	-	-	0.40*	0.08
Ireland LLL 1993	-	-	0.28	0.19
Ireland LLL 1997	-	-	0.24	-0.03
*Country*VocationalCurr*Time:*				
Netherlands Vocational 1989	-	-	-	0.26
Netherlands Vocational 1993	-	-	-	0.05
Netherlands Vocational 1997	-	-	-	-0.36
Ireland Vocational 1989	-	-	-	-0.41
Ireland Vocational 1993	-	-	-	0.07
Ireland Vocational 1997	-	-	-	-0.51*
*Country*LLL*Vocational*Time:*				
Netherlands LLL Vocational 1989	-	-	-	-0.29
Netherlands LLL Vocational 1993	-	-	-	-0.28
Netherlands LLL Vocational 1997	-	-	-	2.23*
Ireland LLL Vocational 1989	-	-	-	0.77*
Ireland LLL Vocational 1993	-	-	-	0.14
Ireland LLL Vocational 1997	-	-	-	0.63*

Base Category: Male, Ireland 1985, Pass upper secondary education

***p<.001, **p<.01, *p<.05

Table 9: Log Odds of Skilled Manual Job versus All Others

(for those whose principal status is employment), Ireland and the Netherlands

Variable	M1	M2	M3	M4
Constant	-0.94***	-1.22***	-1.45***	-1.45***
Female	-1.80***	-1.76***	-1.76***	-1.77***
Country:				
Netherlands	0.09	0.25	0.48**	-1.02*
Country by Time:				
Netherlands 1993	-0.35***	-0.32***	-0.32***	0.28
Netherlands 1997	-0.42***	-0.37***	-0.36***	0.51
Ireland 1989	0.04	0.06	0.22	0.08
Ireland 1993	-0.14	-0.07	0.23	0.20
Ireland 1997	0.46**	0.38**	0.73***	0.49*
Educational Level:				
< lower sec	-	0.51***	0.99***	1.00***
Passed Lower Sec	-	0.62***	1.08***	1.08***
Failed Upper Sec	-	0.19	0.19	0.19
Country by Least Qualified:				
Netherlands LLL	-	-0.26	-0.72**	-0.43
*Country*LLL*Time:*				
Netherlands LLL 1993	-	-	-0.01	-0.45
Netherlands LLL 1997	-	-	-0.02	-0.13
Ireland LLL 1989	-	-	-0.31	-0.27
Ireland LLL 1993	-	-	-0.71*	-0.12
Ireland LLL 1997	-	-	-0.67*	-0.23
*Country*VocationalCurr*Time:*				
Netherlands Vocational 1989	-	-	-	1.53***
Netherlands Vocational 1993	-	-	-	0.92*
Netherlands Vocational 1997	-	-	-	0.64*
Ireland Vocational 1989	-	-	-	0.56
Ireland Vocational 1993	-	-	-	0.09
Ireland Vocational 1997	-	-	-	0.48*
*Country*LLL*Vocational*Time:*				
Netherlands LLL Vocational 1989	-	-	-	-0.25
Netherlands LLL Vocational 1993	-	-	-	0.23
Netherlands LLL Vocational 1997	-	-	-	-0.17
Ireland LLL Vocational 1989	-	-	-	-0.41
Ireland LLL Vocational 1993	-	-	-	-1.04*
Ireland LLL Vocational 1997	-	-	-	-0.88**

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

Table 10: Log Odds of Secondary Segment Job versus All Other Segments (for those whose principal status is employment), Ireland and the Netherlands

Variable	M1	M2	M3	M4
Constant	-0.01	-0.27**	-0.26**	-0.26**
Female	-0.01	0.11***	0.11**	0.11***
Country:				
Netherlands	-0.41***	-0.47***	-0.43***	-1.04***
Country by Time:				
Netherlands 1993	-0.48***	-0.41***	-0.48***	1.28***
Netherlands 1997	-0.36***	-0.30***	-0.39***	0.51*
Ireland 1989	-0.08	-0.07	-0.12	-0.07
Ireland 1993	0.27*	0.30**	0.37**	0.52**
Ireland 1997	-0.16	-0.23*	-0.26*	-0.09
Educational Level:				
< lower sec	-	0.66***	0.63***	0.63***
Passed Lower Sec	-	0.34***	0.32	0.32
Failed Upper Sec	-	0.55***	0.54***	0.53***
Country by Least Qualified:				
Netherlands LLL	-	0.64***	0.43*	0.90**
*Country*LLL*Time:*				
Netherlands LLL 1993	-	-	0.36***	-1.11**
Netherlands LLL 1997	-	-	0.47***	-0.02
Ireland LLL 1989	-	-	0.17	-0.09
Ireland LLL 1993	-	-	-0.31	-0.88**
Ireland LLL 1997	-	-	0.08	-0.07
*Country*VocationalCurr*Time:*				
Netherlands Vocational 1989	-	-	-	0.62**
Netherlands Vocational 1993	-	-	-	-1.18***
Netherlands Vocational 1997	-	-	-	-0.31*
Ireland Vocational 1989	-	-	-	-0.21
Ireland Vocational 1993	-	-	-	-0.38*
Ireland Vocational 1997	-	-	-	-0.34
*Country*LLL*Vocational*Time:*				
Netherlands LLL Vocational 1989	-	-	-	-0.47
Netherlands LLL Vocational 1993	-	-	-	1.02***
Netherlands LLL Vocational 1997	-	-	-	0.02
Ireland LLL Vocational 1989	-	-	-	0.55
Ireland LLL Vocational 1993	-	-	-	1.14**
Ireland LLL Vocational 1997	-	-	-	0.31

Base Category: Male, Ireland 1985, Pass upper secondary education
***p<.001, **p<.01, *p<.05

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WORKING PAPERS

Gender differentiation in education and early labour market transitions: A comparative analysis

Emer Smyth

Economic and Social Research Institute (ESRI)
Dublin
Ireland
E-mail: emer.smyth@esri.ie

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Introduction

The period since the 1980s has seen a remarkable expansion of educational participation among young women across Europe (Müller and Wolbers, 1999; OECD, 2000). However, gender differences in educational participation and early labour market experiences have rarely been placed in the context of institutional variation in education, training and labour market systems. Although there are certain cross-national similarities in the pattern of gender differences, particularly in relation to industrial and occupational segregation, gender differences tend to be constructed within specific social, economic and cultural contexts (see, for example, Bradley, 1989; Connell, 1987; Crompton and Sanderson, 1990; Rubery and Fagan, 1995; Walby, 1988).

This paper draws on work completed under the Comparative Analysis of the Transitions from Education to Work in Europe (CATEWE) project to examine education and labour market outcomes by gender over the 1980s and 1990s among school-leavers in three countries: Ireland, the Netherlands and Scotland. Analyses in this paper develop upon a previous analysis of cross-national gender differences at one point in time (Smyth, 2000).

Among the study countries, the Netherlands represents a clear example of track differentiation (between academic and vocational courses, and among vocational courses) within the upper secondary school system. In the Irish and Scottish systems, there is a considerable degree of differentiation by stage and within stage (for example, by examination grades). While the Irish system is general in orientation, students can differ in the subjects they take and the consequences of such 'informal' differentiation are examined later in the paper. In addition, an increasing proportion of young people in the Irish secondary school system take vocational (Post-Leaving Certificate) courses within upper secondary education. Thus, it is possible to examine the way in which less rigidly-differentiated vocational and academic tracking in the Irish context compares with more highly institutionalised tracking in the Dutch context. Like Ireland, the Scottish secondary school system is general in orientation with differentiation by stage and examination results. It is more difficult to examine the existence of 'informal' tracking in the Scottish context. Students differ in the subjects they take but the nature of available data means that we cannot identity the prevalence of distinct 'vocational' qualifications over time. For this reason, it is not possible to look at differences among Scottish students over time in the types of courses they have taken.

Two sets of hypotheses are tested in this paper:

1. The type of differentiation evident within the education/training system will influence the nature of gender differences in educational outcomes. More specifically:
    - In systems with a high level of track differentiation (such as the Netherlands), clear gender differences are likely to be apparent in the *type* of education received by young women and men.
    - In more general systems, gender differences are more likely to be apparent in the *level* of education received or in examination performance within educational levels. There is no a priori basis for specifying whether young women or men will have higher levels of educational attainment within general systems. In certain countries, the level of educational attainment has expanded disproportionately among young women in recent years (see OECD, 2000) although it seems more likely that this has been linked to wider socio-economic change rather than to systemic reforms *per se*.
2. The type of differentiation evident within the education/training system will influence the nature of gender differences in transition outcomes. More specifically:
    - Industrial and occupational segregation by gender will be more evident in track-differentiated systems if strong gender differences are apparent in subject/track take-up within secondary education.
    - In track-differentiated systems, gender segregation in labour market outcomes will tend to be mediated by the type of course taken (whether predominantly male, predominantly female, or mixed). Thus, young women will enter female-typed occupations or industries because they have taken part in vocational courses oriented towards such outcomes.
    - In contrast, in more 'general' systems, gender differences will arise in the interaction between occupational choice and employer preference on entry to the labour market. Thus, direct gender effects on industrial and/or occupational allocation should be stronger in general than in track-differentiated systems.

Data and methodology

Analyses in this paper use an integrated comparative database on school-leavers developed as part of the CATEWE project. The project involved the development of three comparative databases: a 'current' database (comparing school-leavers in France, Ireland, the Netherlands, Scotland and Sweden at a recent point in time), a time-series database (comparing school-leavers in Ireland, the Netherlands and Scotland over the 1980s and 1990s) and a longitudinal database (comparing Irish and French school-leavers over their first five years in the labour market). This paper draws on the time-series database, developed to explore the effects of changes in institutional and labour market contexts on transition processes over time.

Because of the different timing of each survey and the fact that the Dutch survey was initiated later than those in other countries, a different number of time-points is available for each of the countries. The surveys incorporated into this database are: Ireland (1980, 1985, 1989, 1993 and 1997), the Netherlands (1989, 1993 and 1997), and Scotland (1979, 1985, 1989, 1993 and 1997). Data relate to the position of young people approximately one to one and a half years after leaving school.

There were a number of advantages to constructing an integrated comparative database rather than relying on 'side by side' analyses of data separately for each country. Firstly, such a database allows us to directly test cross-national differences controlling for the characteristics of school-leavers. Thus, we can test whether gender differences are greater in a particular country, for example. Secondly, attempting to construct variables which can be used for each of the countries means that the central concepts (especially those relating to education and labour market outcomes) must be clarified and measures derived which will accurately assess cross-national differences and similarities (Brannen, Smyth, 2000).

The construction of cross-nationally equivalent variables was far from unproblematic, however. Particular difficulties arose in relation to finding a common classification for educational and occupational variables.

The CASMIN measure of education is frequently used in cross-national studies. However, the use of such a measure is somewhat problematic for our purposes. Firstly, this measure is more commonly applied to the adult population (who have usually 'completed' their education/training). School-leavers in our sample, however, are often still participating in education or training and therefore the CASMIN measure does not necessarily give a reliable indication of their eventual destination. Secondly, the same categories do not exist in all of the participating countries, making cross-national comparison more difficult. Thirdly, the nature of the measure means that often school-leavers are highly concentrated in particular categories. This was especially evident in the Irish context and it was clear that the measure ignored some of the dimensions considered important (such as grades achieved). For these reasons, it was decided to include a range of dimensions of educational background in the database(s), including:

- Educational level (CASMIN)
- Age on leaving school
- Educational level (a schema developed for a previous Leonardo project which combines stage left with whether qualifications were achieved)
- Curricular track (vocational/academic)
- Grades received (for those in Ireland and Scotland; and on academic tracks in the Netherlands)
- Subjects/ courses taken.

Due to the absence of information on grades in Ireland for 1980, this paper focuses on three measures of educational outcomes: upper secondary completion[1], curricular track in upper secondary (vocational v. academic) and type of vocational track taken (predominantly male, predominantly female or mixed/neutral). Upper secondary completion refers to sitting the Leaving Certificate in Ireland, attempting Highers in Scotland or taking HAVO, MBO or VWO exams in the Netherlands. Vocational tracks incorporate MBO leavers in the Netherlands while in Ireland they refer to those who have taken Post-Leaving Certificate vocational courses or to those who have 'specialised' in vocational subjects in the Leaving Certificate (by taking two or more such subjects). Type of vocational track is decided on the basis of the gender composition of that track within each particular country. More complex measures of educational attainment yield greater insight into cross-national differences (see McCoy, 2000) and it is hoped to investigate the use of other such measures in future analyses.

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[1] The use of the term 'completion' is somewhat problematic in the Scottish context since students can take upper secondary qualifications (Highers) over two years. Here 'upper secondary completion' refers to those who attempted upper secondary qualifications rather than leaving before this stage.

As with education, it is difficult to derive a cross-nationally comparable classification of occupations. The Erikson-Goldthorpe (EGP) social class schema is quite commonly used for comparative analyses. However, it has some disadvantages for our purposes, in particular the fact that there is a high concentration of school leavers in a small number of class groupings. This may lead us to ignore important differences among school leavers in their occupational experiences. For this reason, it was decided to include a range of employment characteristics in the database, including:

- Full/part-time employment
- Permanent/temporary contract
- Social class (EGP schema)
- Occupational status (based on a cross-nationally comparable measure of status developed by Treiman and Ganzeboom)
- Occupational segment
- Industrial sector
- Industrial segment
- Earnings (country-specific measures due to significant differences between countries).

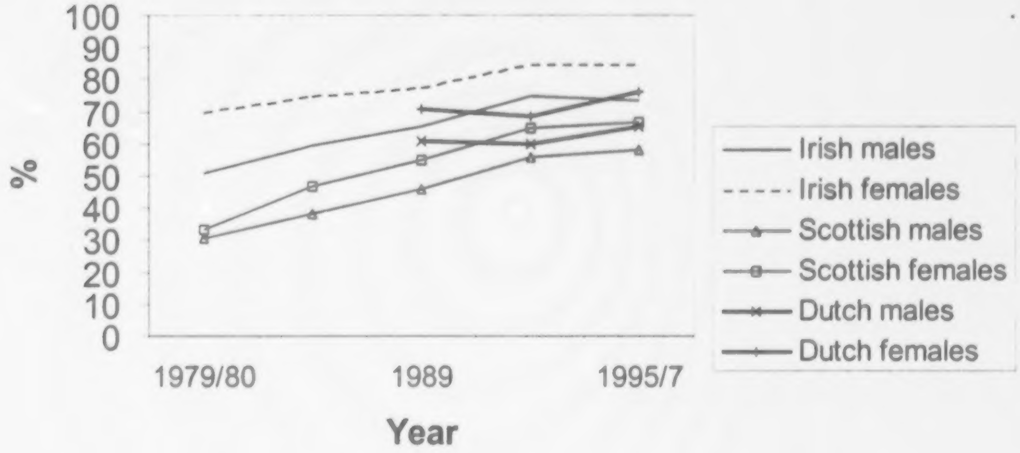
Analyses in this paper concentrate on four aspects of employment outcome: whether part-time or full-time; industrial sector; social class; and occupational status.

The design and construction of the time-series database created a number of additional difficulties. Firstly, some information was not available for certain years in the time-series. Earlier surveys in Ireland and the Netherlands collected more limited information with additional questions gradually added over time. For example, information on school leavers' performance/grades was not collected for the earliest time-point in the Irish time-series data. Secondly, changes took place in the way in which questions were phrased within the surveys. Where possible, categories were recoded to ensure consistency across time. Where serious discrepancies arose as a result of such changes, certain variables had to be treated as 'not available' for particular time-points. Thirdly, changes took place over time in the way in which responses were classified. This is particularly evident in relation to occupational and industrial classifications which changed over time in all three countries. Often no 'mapping' existed between old and new classification schemas so such mappings had to be constructed specifically for the purposes of the project.

The constraints of the database cause some difficulties in exploring cross-national differences in transitions over time. For this reason, analyses of the whole period (early 1980s to mid/late 1990s) can only be carried out for Ireland and Scotland. Separate analyses are carried out on Ireland and the Netherlands for the period 1989 to 1997 in order to contrast formal and informal track differentiation in the two systems.

Educational trends by gender

Figure 1: Upper secondary leavers



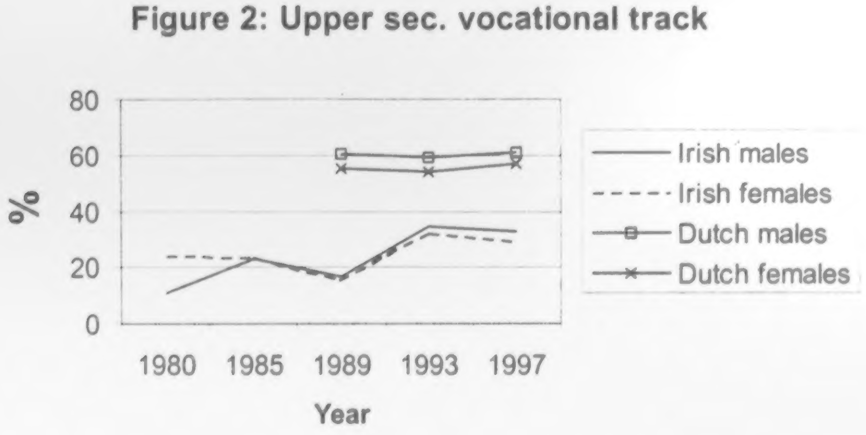
The three countries exhibit quite different trends in educational participation and in gender differentiation in educational attainment (see Figure 1):

1. Scotland shows a widening gender gap (in favour of females) in educational attainment over time, in the context of growing levels of upper secondary completion among both males and females.
2. Ireland shows a slight narrowing of the gender gap (with males catching up slightly) in educational attainment over time, in the context of rising educational participation levels.
3. The Netherlands shows relative stability in overall educational attainment levels and in the pattern of gender differences, albeit over a shorter time period.

The gender gap in favour of females is apparent in all three countries but is widest in Ireland.

For Ireland and Scotland, it is possible to examine the potential interaction between gender and social class background in shaping educational attainment levels. Unfortunately, due to the absence of information on parental characteristics, this analysis is not possible for the Dutch sample. Even controlling for parental background, educational attainment is higher among females than males, with a wider gap in the Irish context (Table 1). The pattern of increase over time in educational attainment evident in Figure 1 is somewhat attenuated when social class background is taken into account. In other words, some of the educational growth reflects a shift in the class composition of the relevant Irish and Scottish populations towards the increasing representation of class categories with traditionally higher levels of educational participation.

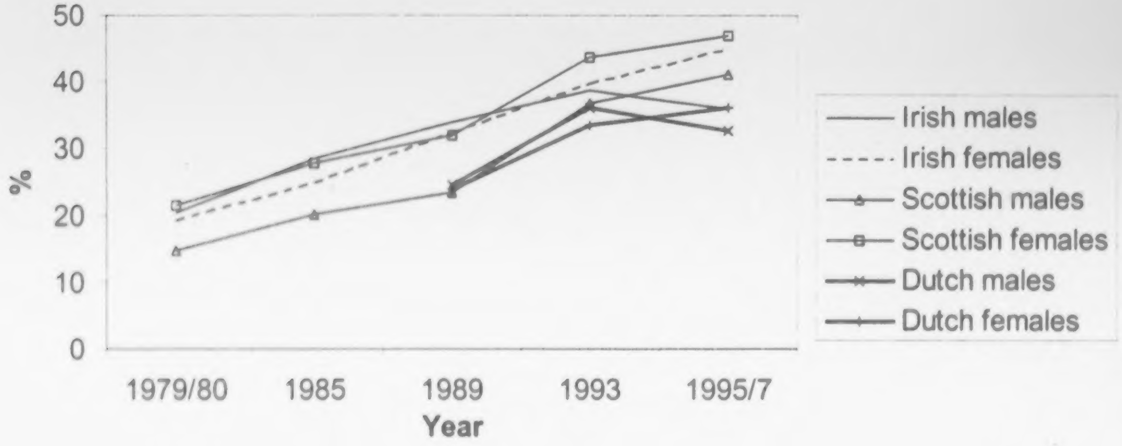
Educational attainment patterns are sharply differentiated by social class with the highest levels of upper secondary completion evident among the service class and the lowest among the semi/unskilled manual group; those in the service class are eight and a half times more likely to take upper secondary examinations than those from semi/unskilled manual backgrounds, all else being equal (Table 1). The relative differences in attainment by class are similar in Ireland and Scotland. There is no evidence of any reduction in class differences in educational attainment over time in either country, a pattern which is consistent with previous single-country analyses (see Smyth, 1999). Having at least one parent in paid employment is positively associated with staying on to upper secondary level in Ireland and has become increasingly important in Scotland over time. Interestingly, the 'returns' to social class membership appear to be lower for females than for males, that is, female educational attainment is somewhat less sharply differentiated by socio-economic background, although class differences among females remain substantial. This pattern may reflect a ceiling effect, given extremely high levels of participation among (certain groups of) young women.



Gender differences are also apparent in the type of education received by young people in Ireland and the Netherlands. When all school-leavers are considered, young men are much more likely to have taken a vocational track than young women, with more marked gender differences in Ireland than the Netherlands. However, when only upper secondary leavers are considered, gender differences in the type of track taken are less marked (see Figure 2). Dutch males are somewhat more likely to take an upper secondary vocational track than Dutch females, although the Dutch female level is significantly higher than that found among Irish males. There has been some increase over time in Ireland in the proportion taking vocational tracks with the expansion of Post-Leaving Certificate courses. Among those taking vocational tracks, there are marked gender differences in the type of subject taken in both Ireland and the Netherlands. In order to explore the interaction between educational segregation and industrial/ occupational segregation, courses have been divided into 'male' (more than two-thirds of participants are male) and 'female' (more than two-thirds of participants are female) with the remainder of courses designated as 'mixed'.

Participation in post-school education

Figure 3: Post-school education



As well as a growth in secondary completion, an expansion in entry levels to post-school education has been evident in all three countries (Figure 3). The nature of gender differences in educational participation has also changed; in Ireland and the Netherlands, there has been a shift over time towards higher participation among females than males while rates of participation have been higher among females in Scotland throughout the whole period[2]. To what extent do these changing gender differences reflect trends in upper secondary completion?

Tables 2a and 2b indicate that these trends are evident, even controlling for initial education; that is, post-school participation has grown disproportionately among females in Ireland and the Netherlands. In Scotland, trends in post-school participation are commensurate with levels of upper secondary leaving, although overall participation rates are higher among females. As might be expected, rates of entry to post-school education are higher among those who completed the upper secondary level; this difference is most marked in the Netherlands. Not completing upper secondary education is somewhat less of a barrier to participation for females than males, a pattern that applies across all three countries.

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[2] To some extent, this cross-national difference may reflect institutional/definitional differences in the nature of post-school education. A significant proportion of those in post-school education in Scotland are in further education colleges where they may be studying courses at either secondary or tertiary level. When only university entrants are considered, female participation outstrips that of males in Ireland by the end of the period with male dominance narrowing in Scotland and, to a lesser extent, the Netherlands.

As with educational attainment on leaving school, post-school participation is significantly structured by social class in Ireland and Scotland, with the highest rates found among the service class and petty bourgeoisie. Furthermore, having a parent in paid employment is positively associated with post-school participation, especially in Ireland (Table 2a). Social class influences on participation operate in a similar manner for males and females and in Ireland and Scotland.

It is clear, therefore, that post-school educational participation is strongly influenced by secondary educational attainment. However, it is also important to explore whether particular types of education are differently associated with post-school participation. Taking either an academic or vocational track at upper secondary level is positively associated with subsequent educational participation; however, the relationship is much stronger for those who have taken an academic track. This pattern is broadly similar in Ireland and the Netherlands. The type of vocational track taken does not appear to have a significant effect per se (Table 2b).

Labour market entry patterns

The previous section indicates that declining proportions of young people, especially those who have completed upper secondary education, directly enter the labour market on leaving school. However, in spite of the 'cream-off' of higher educated leavers to further education, educational attainment levels have also risen among labour market entrants. To what extent then do gender differences in educational attainment translate into gender differences in employment situation?

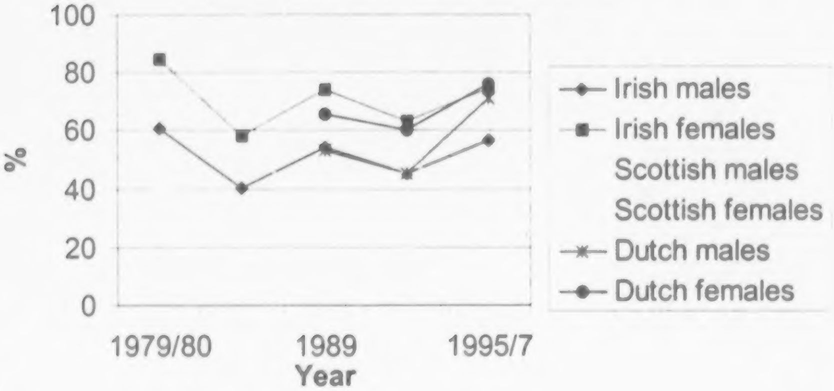

Figure 4a: Paid employment rate among labour market entrants

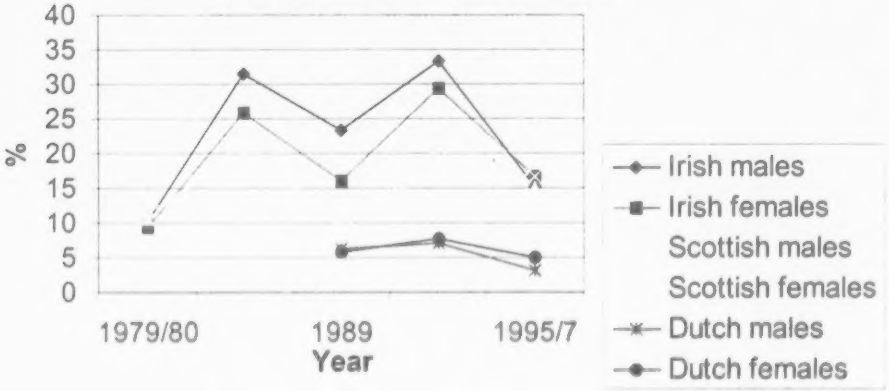

Figure 4b: Unemployment rate among labour market entrants

Figure 4a indicates higher employment rates among females than males in all three countries over the whole period while unemployment rates are consistently higher among males than females only in Ireland (Figure 4b). The models in tables 3a, 3b and 3c allow us to examine whether these gender differences hold when we take account of higher educational attainment among females. Even controlling for education, females are more likely to be in employment (relative to unemployment) than their male counterparts, approximately one year after leaving school. (The exception to this pattern is the Netherlands in 1997 where employment rates no longer differ by gender.) This relativity is quite constant in the context of marked cross-national differences in employment trends over time.

As might be expected, completing upper secondary education is positively associated with employment chances in all three countries. However, the effect seems to diminish somewhat in Scotland over time (Table 3a). The relationship between educational attainment and employment chances is similar for males and females in all of the countries.

In Ireland and Scotland, social class background has an additional effect on employment chances as does parental employment (Table 3a). However, this effect may be capturing some of the variation in educational qualifications among upper secondary leavers. In other words, the fact that those from service class backgrounds tend to receive higher grades in their exam may account for (some of) their advantage in securing access to employment. It is intended to explore this pattern in greater detail in future analyses using more detailed measures of educational outcomes.

Type of education also plays a role in securing access to employment, with the highest employment chances evident among those who have taken a vocational track within upper secondary education (Table 3c). 'Informal' tracking in the Irish context appears to play a similar role to the more institutionalised tracking in the Netherlands. When type of track is considered, those who have taken a male-dominated course appear to fare somewhat better in securing employment. There are some differences between males and females, with taking a mixed or female-dominated track having more positive effects for females than males (Table 3c).

Access to post-school training

Two types of post-school training can be distinguished in the CATEWE time-series database: apprenticeships and State training/employment programmes. Trends in apprenticeships differ markedly by country and gender. In Ireland and Scotland, male apprenticeship rates contracted in line with declining employment during the 1980s and early 1990s while Dutch rates declined substantially during the mid-1990s (Figure 5a). In all three countries, participation is highly gendered, with much higher rates among males than females.

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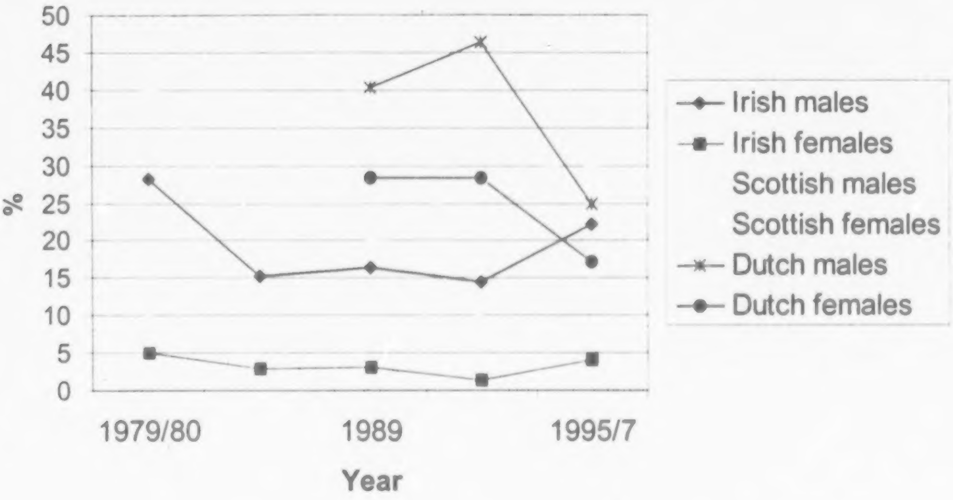
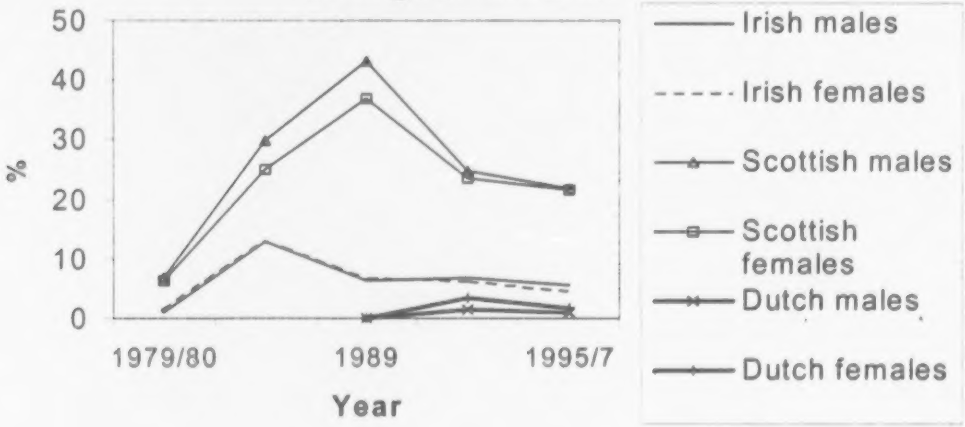
Figure 5a: Apprenticeship among LM entrants



Gender differences remain evident when educational attainment is taken into account and these differences are particularly marked in Ireland compared to Scotland and the Netherlands. This would appear to reflect the types of jobs in which apprenticeships are available. In Ireland, there is a high concentration of apprentices in skilled manual sectors within manufacturing and construction, traditionally male domains. However, in the Netherlands, a relatively high proportion of apprenticeships is available in routine non-manual jobs within the service sector. It should also be noted that in the three countries the nature of apprenticeship participation tends to be highly segregated by gender, with young women concentrated in more traditionally female occupational domains.

The educational background of apprentices differs in the three countries. At the beginning of the period, upper secondary leaving was associated with entry to apprenticeship in Scotland; however, by the end of the period, apprentices tend to resemble the unemployed in their educational profile. The reverse is true in Ireland where the representation of upper secondary leavers among apprentices increases over time. In the Netherlands, apprentices (especially male apprentices) are negatively selected in educational terms, that is, they are more likely to have left school before attempting any upper secondary qualifications. In particular, taking an upper secondary vocational track significantly reduces entry to apprenticeship. Thus, apprenticeship acts as a substitute to achieving vocational skills within schools in the Netherlands (but not in Ireland). This pattern applies for those taking male or mixed tracks and for males who have taken female tracks. However, this is not the case for young women who have taken female tracks.

Figure 5b: Scheme participation among LM entrants



Participation in schemes reflects the very different pattern and timing of scheme provision in the three countries (Figure 5b). In Ireland and Scotland, youth programmes emerged as a response to increasing unemployment in the early to mid 1980s; however, overall levels of provision in Scotland significantly exceeded those in Ireland to the point where many of the traditional employment opportunities for school leavers were replaced with training scheme places. Thus, the boundaries between paid employment, scheme participation and unemployment became somewhat blurred in the Scottish context (Smyth and Surridge, 1996). In the Netherlands, unemployment levels did not begin to increase until the late 1980s and so schemes were not introduced until later than in the other countries; overall levels of participation among young people in schemes have remained low. Similarly, gender differences vary cross-nationally with female participation in schemes exceeding male rates in Scotland (for the mid-1980s to the early 1990s) and in the Netherlands (in 1993 only). In Ireland, there are few gender differences in youth programme participation, although rates are slightly higher among males by the end of the period.

Controlling for education, young women are found to have higher rates of programme participation than young men. Those on schemes tend to resemble the unemployed in terms of their educational profile, both level and type. This is hardly surprising given the targeting of active labour market policy on those who would otherwise become unemployed.

Employment outcomes

A number of different dimensions of employment outcomes are considered: whether young people have part-time jobs; the industries they work in; and the occupations they work in (both social class and occupational status). This allows us to explore whether gender differences in educational outcomes translate into gender differences in employment outcomes. All of these characteristics relate to young people whose principal activity at the time of the survey is paid employment. The countries considered have also been found to differ in the proportion of young people in mixed statuses, that is, combining employment and education/training (see Welters and Wolbers, 1999).

Part-time employment

Figure 6: Prevalence of part-time work

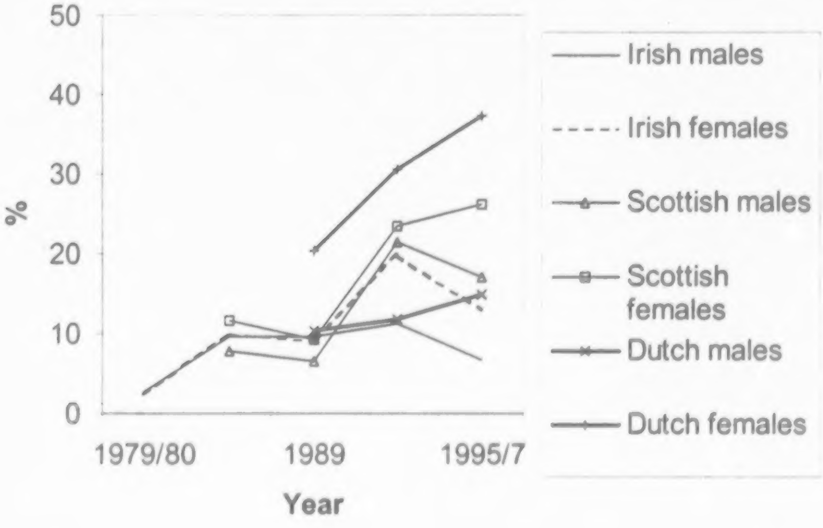


Figure 6 indicates a significant increase in the proportion of young people, especially young women, working part-time over the period. An even higher level of part-time employment has found among young women in France and Sweden (see Smyth, 2000). Part-time work becomes increasingly gendered over time in the three countries and female over-representation is still apparent when education is taken into account (see Tables 4a, 4b and 4c).

In Ireland and the Netherlands, those who complete upper secondary education are less likely to work part-time; however, there are no such educational differences between full-time and part-time workers in the Scottish context. When type of education is considered, it appears that having taken a vocational track provides a more direct route into full-time employment, especially for males. In contrast, Dutch males who took an academic track are somewhat more likely to be in part-time employment. The prevalence of part-time work varies by industrial sector with the highest rates evident in personal and professional services and distribution and the lowest rates in manufacturing. Industrial restructuring accounts for a good deal of the increase in part-time work in Scotland but there has been a shift over time towards part-time work within industries in Ireland and the Netherlands (Table 4b). The predominance of young women in part-time work is partly a reflection of the types of industries they work in; however, young women are more heavily concentrated in part-time work even when industrial sector is taken into account (Tables 4a, 4b and 4c).

Industrial sector

The industrial distribution of young people on leaving school differs significantly between country and over time. In this paper the focus is not on explaining cross-national differences in industrial and occupational restructuring but rather on exploring differences between countries in the relative labour market position of young women and men. Cross-national similarities are evident in the 'gendering' of industrial sectors, even when education is taken into account; construction is strongly 'male' while professional and personal services are strongly 'female' in all three countries. However, the agricultural sector is predominantly male in Ireland and Scotland but not the Netherlands. The gender profile of the distribution sector also varies, being relatively mixed in Ireland and Scotland and predominantly female in the Netherlands (Tables 6a and 6b).

Gender segregation by industry is apparent in all three countries. It was hypothesised that gender segregation would be greater in the Netherlands than in Ireland or Scotland since gender-typed vocational courses are likely to channel young people into gendered sectors. Using an index of dissimilarity as a measure of industrial segregation would appear to confirm this hypothesis with consistently higher levels of segregation in the Netherlands than in the less track-differentiated systems of Ireland or Scotland (see Table 6). However, indices of dissimilarity must be interpreted with some caution since they are sensitive to shifts in the relative size of industrial (and occupational) categories and to the number of categories used (see Blackburn et al., 1993). It is useful, therefore, to examine the influence of gender on industrial allocation, controlling for other factors, especially educational attainment.

Upper secondary education is positively associated with entry to the financial and professional service sectors in all three countries. This effect is more marked for females than males. Overall, upper secondary leaving among females tends to be more positively associated with entry to sectors other than manufacturing. In addition, a service class background has a strong positive association with entry to the financial and professional service sectors in Ireland and Scotland (Table 6a).

When type of education is considered, it is clear that academic and vocational tracks tend to result in different patterns of industrial allocation. Having taken an academic track is strongly associated with entry to the financial and professional service sectors in Ireland and the Netherlands, although rates of entry to professional services are also high among females who have taken a vocational track (Table 6b). The latter pattern may relate to the presence of medical-related vocational courses within upper secondary education in the Netherlands. Some differences are apparent among type of vocational track and these patterns tend to differ by country. In the Netherlands, male tracks are associated with entry to agriculture while taking a mixed or female track reduces the chances of entering the agricultural sector. In both Ireland and the Netherlands, mixed and female tracks are associated with entry to professional services while they are associated with entry to personal services only in the Netherlands (Table 6c).

Our initial hypothesis suggested that labour market segregation should be less evident when educational segregation is taken into account and that the direct effect of gender should be stronger in Ireland than the Netherlands due to the predominance of gendered vocational tracks in the Dutch context. However, the effect of type of track is found to differ for males and females (Table 6c), indicating that industrial segregation by gender persists even among those who have taken similar vocational tracks. Further analyses were carried out to test for a significant interaction between vocational track, gender and country (tables not reported here). The relationship between gender and type of track does not differ significantly by country so there is no evidence of a stronger direct gender effect in the Irish context.

Social class allocation

Social class is measured using the Erikson-Goldthorpe schema. Across all three countries, the routine non-manual class tends to be predominantly female while the skilled manual class is predominantly male. The gender composition of the service class has varied somewhat over time and between country. Due to the variation in social class distribution by gender, the EGP schema is used as a basis for assessing the degree of occupational segregation. Using this classification, occupational segregation tends to be pronounced higher in the Netherlands than in Ireland or Scotland as predicted in our earlier hypothesis (Table 6). However, this should be interpreted with caution as some inconsistencies are evident over time.

As might be expected, upper secondary education is positively associated with entry to the service, routine non-manual, petty bourgeoisie and, to a lesser extent, the skilled manual class compared with the semi/unskilled manual class. The association between upper secondary education and service class entry is stronger for females than for males in all three countries (Tables 7a and 7b). Social class of destination is also associated with social class of origin, although some of the effects may be capturing variation between social groups in educational attainment.

Vocational tracks appear to act as a route to service class entry in both Ireland and the Netherlands, particularly for females, while Irish school-leavers who have taken an academic track are also over-represented within the service class. Rates of entry to routine non-manual work do not differ substantially by curricular type (vocational/ academic). Taking an academic track is negatively associated, and taking a vocational track positively associated, with entering skilled manual work in the Netherlands (Table 7c). When type of track is considered, mixed and female tracks are more strongly associated with entry to the service and routine non-manual classes. Occupational segregation is evident even among those who took similar vocational tracks; the vast majority of young women in the Netherlands, for example, enter routine non-manual work, regardless of whether they have taken 'male, 'female' or 'mixed' vocational tracks. Contrary to our hypothesis, there is no evidence that the relationship between gender and vocational track differs in Ireland and the Netherlands (tables not reported here).

Occupational status

Occupational status was measured using Treiman and Ganzeboom's ISEI scale. In general, status levels tend to be higher in the Netherlands than in Ireland or Scotland. Even controlling for education, young women have higher status levels than young men in all three countries. However, this may reflect the way (predominantly female) routine non-manual jobs are treated in the schema rather than an advantage in terms of pay or conditions (see Smyth, 2000 on lower pay levels among young women in Ireland and the Netherlands). There has been a decline over time in occupational status levels among labour market entrants. As might be expected, upper secondary education is associated with higher status levels in all three countries. However, the returns to females are lower than to males. Social class background is also associated with status, with higher levels found among those from service and routine non-manual backgrounds (Tables 8a and 8b).

Both academic and vocational upper secondary education are associated with entry to higher status jobs. All three types of vocational tracks are associated with higher status in the Netherlands but only mixed and female tracks are associated with higher status in Ireland. In the case of female tracks, young women seem to receive lower returns to participation than young men (Table 8b).

Conclusions

This paper has examined three countries with very different trends in educational participation by gender. In spite of these differences, certain cross-national regularities are evident in the early transition process. Firstly, young women are more likely to work part-time than young men, even at this early stage in their careers and the extent of part-time employment among young women may have negative consequences for their subsequent career mobility. Secondly, industrial and occupational segregation by gender is evident in all three countries. However, it should also be recognised that the 'gendering' of occupational and industrial sectors does vary somewhat across countries, reflecting the interaction between young people's characteristics and employer demand in particular socio-economic contexts. In addition, gender-typing is found to vary somewhat over time, a phenomenon that is usually only evident over much longer time-periods (see, for example, Bradley, 1989).

There is tentative support for the hypothesis of greater labour market segregation in the track-differentiated system of the Netherlands than in the more general systems of Ireland and Scotland; aggregate measures of occupational and industrial segregation indicate somewhat greater segregation by gender in the Dutch context. Gender-typed vocational courses do play a role in channelling young people towards gendered industries and occupations. However, contrary to our initial hypothesis, labour market segregation in the Netherlands is not wholly accounted for by gender segregation in the type of education received. It is important, therefore, to take account of the way in which gender continues to shape the interaction between education/ training systems and the labour market for young people.

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Table 1: Upper secondary leaving in Ireland and Scotland

Variables	*Coefficients*
Constant	-1.702***
Ireland	.898***
Female	.529***
Female - Ireland	.372***
Time trend:	
1985	.030
1989	.219**
1993	.634***
1997	.596***
Social class:	
Service class	2.134***
Non-manual class	1.011***
Petty bourgeoisie	.939***
Skilled manual	.499***
Social class unknown	-.274**
Service class - female	-.307***
Non-manual class - female	-.208**
Skilled manual - female	-.150*
Class unknown - female	-.216**
Parental employment	-.057
Parental employment - Ireland	.217***
Parental employment 1985	.392***
Parental employment 1989	.434***
Parental employment 1993	.474***
Parental employment 1997	.518***

Base category: Scotland, male, 1980, semi/unskilled manual/agricultural worker cl
no parent in paid employment

*** p<.001, ** p<.01, * p<.05

Table 2a: Post-school educational participation in Ireland and Scotland

Variables	*Coefficients*
Constant	-3.895***
Ireland	-.620***
Female	1.193***
Female - Ireland	-.660***
Upper secondary leaver	2.861***
Upper secondary leaver - female	-.999***
Time trend:	
1985	.004
1989	-.026
1993	.614***
1997	.766***
Ireland 1985	.366***
Ireland 1989	.707***
Ireland 1993	.021
Ireland 1997	-.233
Female 1993	-.216**
Female 1997	-.249**
Ireland - female 1993	.556***
Ireland - female 1997	.938***
Social class:	
Service class	1.223***
Non-manual class	.462***
Petty bourgeoisie	.750***
Skilled manual	.234***
Social class unknown	.473***
Service class - Ireland	.211**
Class unknown - female	-.217*
Parental employment	.135*
Parental employment - Ireland	.328***

Base category: Scotland, male, 1980, semi/unskilled manual/agricultural worker class, no parent in paid employment, left school before attempting upper secondary exam.

Table 2b: Post-school educational participation in Ireland and the Netherlands

	Model 1	*Model 2*	*Model 3*
Constant	-4.299***	-4.455***	-4.420***
Ireland	1.089***	1.011***	.951***
Female	.195	.119	.099
Female - Ireland	-.108	.064	.162
Upper secondary leaver	3.872***		
Upper secondary - female	-.467***		
Upper secondary - Ireland	-.666***		
Academic leaver		5.422***	5.427***
Academic leaver - female		-.580***	-.597***
Academic leaver - Ireland		-1.711***	-1.734***
Vocational leaver		2.954***	
Vocational leaver - female		-.831***	
Vocational leaver - Ireland		-.921***	
Male track leaver			2.856***
Male track leaver - female			-.854***
Male track leaver - Ireland			-.376*
Mixed track leaver			3.081***
Mixed track leaver - female			-.747***
Mixed track leaver - Ireland			-1.210***
Female track leaver			2.965***
Female track leaver - female			-.859**
Female track leaver - Ireland			-1.280***
Time trend:			
1993	.762***	.995***	.964***
1997	.386***	.547***	.520***
Ireland 1993	-.741***	-.679***	-.638***
Ireland 1997	-.476***	-.394***	-.396**
Female 1993	-.165**	-.143*	-.151*
Female 1997	.177**	.350***	.346***
Ireland - female 1993	.365*	.343*	.386*
Ireland - female 1997	.376*	.233	.304

Base category: Netherlands, male, 1989, left school before attempting upper secondary exam/ qualification.

Table 3a: Labour market entry status in Ireland and Scotland (contrasted against unemployment)

Explanatory variables	Employed	Apprentice	Scheme
Constant	1.061***	.952***	-.523***
Ireland	-0.081	-.791***	-2.060***
Female	.458***	-1.069***	-.121*
Female - Ireland	-.071	-.306**	.208
Time trend:			
1985	-1.629***	-1.922***	.581***
1989	-.952***	-1.329***	1.731***
1993	-1.523***	-1.432***	.621***
1997	-1.424***	-1.314***	.549***
1997 - Ireland	.689***	.340	.976***
Upper secondary education	1.475***	.720***	.188
*1985	-.503*	-.253	-.103
*1989	-.869***	-.573*	-.640*
*1993	-.880***	-1.062***	-.419
*1997	-.549*	-.414	-.027
Upper sec. - Ireland	-.973***	-1.232***	.644
*1985 - Ireland	.529*	.760*	.478
*1989 - Ireland	1.105***	1.388***	-.626
*1993 - Ireland	.825***	.977***	-.312
*1997 - Ireland	.681*	1.242***	-1.343**
Social class:			
Service	.535***	.705***	.153
Non-manual	.313***	.523***	.145
Petty bourgeoisie	.471***	.609***	.209**
Skilled manual	.127*	.380***	.145*
Unknown	-.387***	-.255***	-.179*
Parental employment	.614***	.877***	.347***

Base category: Unemployed, Scotland, male, 1980, left school before upper secondary, semi/unskilled manual class, no parent in paid employment.

Table 3b: Labour market entry status in Ireland and the Netherlands (contrasted against unemployment)

Explanatory variables	Employed	Apprentice	Scheme
Constant	1.711***	2.155***	-6.357***
Ireland	-1.255***	-2.663***	5.037***
Female	.199*	-.480***	1.127***
Female - Ireland	.376***	-1.698***	-.503*
Time trend:			
1993	-.158*	-.029	4.790***
1997	.925***	.181	5.045***
1993 Ireland	-.512***	-.648***	-5.120***
1997 Ireland	-.471***	.524**	-4.671***
1993 female	-.158	-.274*	-.236
1997 female	-.613***	-.521***	-.809**
Upper secondary	.855***	-1.049***	.050
Upper secondary - Ireland	-.035	1.509***	-.027
Upper secondary - female	-.025	.852***	-.362

Base category: Unemployed, Netherlands, male, 1989, left school before upper secondary.

Table 3c: Type of education and labour market status in Ireland and the Netherlands

	Employed	*Apprentice*	*Scheme*
Academic track	.592***	-.473**	-.110
Academic - Ireland	.258	.855***	.143
Academic - female	-.158	.789***	-.339
Vocational track	.877***	-1.197***	.099
Vocational - Ireland	-.047	1.836***	-.048
Vocational - female	.055	.795***	-.371
Of which:			
Male track	1.137***	-1.051***	.315
Male track - Ireland	-.422*	2.362***	-.053
Male track - female	-.081	-.164	-.338
Mixed track	.511***	-1.607***	-.160
Mixed track - Ireland	.037	1.758***	-.101
Mixed track - female	.457*	.172	-.270
Female track	.509***	-1.250***	-.141
Female track - Ireland	.165	-.977	.093
Female track - female	.363*	1.136***	-.106

Note: these models are similar to that presented in Table 3b but replacing upper secondary with academic upper secondary and vocational upper secondary; subsequently, vocational upper secondary is replaced by male/female/mixed track.

Table 4a: Part-time work in Ireland and Scotland

Variable	*Model 1*	*Model 2*
Constant	-2.464***	-2.794***
Female	.381***	.269**
Ireland	.212	.033
Time trend:		
1989	-.236	-.108
1993	.960***	.006
1997	.933***	.096
1989 - Ireland	.200	.045
1993 - Ireland	-.321	.617*
1997 - Ireland	-.834***	.031
Upper secondary education	.087	-.126
Upper secondary - Ireland	-.434***	-.276
Industry:		
Manufacturing		-.469**
Distribution		1.135***
Professional services		.442*
Personal services		1.084***

Base category: male, Scotland, 1985, left school before upper secondary qualification; agriculture/ construction/ finance/ public administration.

Note: model is based on the period 1985 to 1997 since information on the prevalence of part-time working is not available for Scotland in 1979.

Table 4b: Part-time work in Ireland and the Netherlands

Variable	*Model 1*	*Model 2*
Constant	-2.182***	-2.612***
Ireland	-.138	-.044
Female	1.054***	.803***
Female - Ireland	-.575***	-.608***
Time trend:		
1993	.429***	.509***
1997	.723***	.802***
1989 - Ireland	.253	.172
1993 - Ireland	-.576**	-.599***
1997 - Ireland		
Upper secondary education	-.353***	-.434***
Upper secondary – Ireland	-.135	-.157
Upper secondary - female	.121	.136
Industry:		
Manufacturing		-.734***
Distribution		.801***
Professional services		.887***
Personal services		1.263***

Base category: male, Netherlands, 1989, left school before upper secondary qualification; agriculture/ construction/ finance/ public administration.

Table 4c: Type of education and part-time work in Ireland and the Netherlands

	Model 1	*Model 2 (controlling for industry)*
Academic track	.551***	.335*
Academic - Ireland	-.260	-.483*
Academic - female	-.926***	-.651***
Vocational track	-.541***	-.580***
Vocational - Ireland	-.260	-.149
Vocational - female	.350***	.301**
Of which:		
Male track	-1.010***	-.885***
Male track - Ireland	.060	-.063
Male track - female	.267	.309*
Mixed track	-.445***	-.633***
Mixed track - Ireland	1.044**	1.094**
Mixed track - female	-.590***	-.341*
Female track	.859***	.525***
Female track - Ireland	-.825***	-.631**
Female track - female	-.657***	-.450**

Table 5: Industrial and occupational segregation by gender
(index of dissimilarity)

	Industry (9 categories)			*Occupation (8 categories)*		
	Ireland	*Netherlands*	*Scotland*	*Ireland*	*Netherlands*	*Scotland*
1979/80	26.9	-	19.4	46.1	-	46.7
1985	32.7	-	21.4	23.1	-	44.9
1989	28.8	35.2	22.4	34.8	48.7	43.3
1993	30.5	35.5	33.4	33.1	53.9	52.3
1995/7	30.5	31.7	29.3	38.2	44.8	46.5

Table 6a: Industrial allocation in Ireland and Scotland

	Agriculture	Construction	Distribution	Finance/ public admin.	Professional services	Personal services
Constant	-2.055***	-2.002***	-.585***	-1.545***	-2.890***	-1.943***
Ireland	1.111***	.862***	.579***	.430***	.488**	.371**
Female	-1.468***	-1.369***	-.023	.082	.983***	.528***
Time trend:						
1985	.436*	.856***	.263**	.439***	-.117	.772***
1989	.597**	.921***	.130	.207	-.011	.442***
1993	.927***	1.127***	.701***	-.131	.024	1.247***
1997	.827***	.895***	.321**	1.762***	-.192	.748***
1985 - Ireland	-.370	-.821**	-.335*	-1.176***	.098	-.240
1989 - Ireland	-.609*	-.388	-.186	-1.731***	-.229	.293
1993 - Ireland	-.934**	-.992**	-.753***	-1.976***	-.323	-.373
1997 - Ireland	-1.410***	-.545*	-.582***	-1.566***	-.361	-.321
Upper secondary education	.316*	.209	.485***	1.762***	1.364***	.435***
Upper secondary - Ireland	-.894***	-.672***	-.277*	-.648***	-.350*	-.443***
Upper secondary - female	.473*	.605**	.302**	.385**	.550**	.230
Social class:						
Service class	-.006	.171	.202*	.888***	.836***	.534***
Nonmanual	-.102	.179	.326***	.705***	.424***	.279**
Petty bourgeoisie	1.378***	.226	.180*	.260**	.511***	.403***

Base category: manufacturing; male, Scotland, 1980, left school before upper secondary qualification; semi/unskilled manual class background.

Table 6b: Industrial allocation in Ireland and the Netherlands

	Agriculture	*Construction*	*Distribution*	*Finance/ public admin.*	*Professional services*	*Personal services*
Constant	-1.612***	-.475***	.252***	-1.137***	-1.362***	-1.262***
Ireland	.698**	-.165	-.411**	-1.308***	-1.784***	.382*
Female	-.268	-2.757***	.826***	.187	1.171***	1.014***
Female - Ireland	-1.021***	-.847*	-.547***	-.340	.061	-.305*
Time trend:						
1993	-.187	.110	.093	-.174	-.567***	.142
1997	.743***	.053	.226**	-.005	-.225*	.231*
1993 - Ireland	.243	-.765*	.004	-.440	.196	.058
1997 - Ireland	-1.328***	-.289	-.483***	-.291	-.307	-.405*
1993 - female	.093	.175	-.190	-.203	.308*	-.107
1997 - female	.081	.537*	.121	-.191	.240	-.193
Upper secondary education	.516***	-.181*	-.040	.537***	1.289***	.202*
Upper sec. - Ireland	-.928***	-.132	.421***	.534	.291	-.273
Upper sec. - female	-.579**	1.425***	.104	.935***	.551***	.545***

Base category: manufacturing; male, Netherlands, 1989, left school before upper secondary qualification.

Table 6c: Type of education and industrial allocation in Ireland and the Netherlands

	Agriculture	*Construction*	*Distribution*	*Finance/ public admin.*	*Professional services*	*Personal services*
Academic track	.930***	-.061	.587***	1.566***	1.959***	-.084
Academic - Ireland	-1.070***	-.189	-.066	-.378	.673*	.229
Academic - female	-.787*	1.777***	-.099	.597**	-.666**	.522*
Vocational track	.466***	-.196*	-.109	.398***	1.194***	.221*
Vocational - Ireland	-1.166***	-.116	.407**	.707*	-.107	-.783***
Vocational - female	-.534**	1.350***	.100	.911***	.732***	.575***
Of which:						
Male track	.671***	-.046	-.454***	-.017	.904***	-1.038***
Male track - Ireland	-.907*	-.147	.077	.515	-.368	.473
Male track - female	-.057	.988***	-.110	.971***	-.461*	.270
Mixed track	-1.437***	-1.065***	.896***	1.389***	1.157***	1.034***
Mixed track - Ireland	.905	.253	-.182	-.145	.625	-.824*
Mixed track - female	.414	2.855***	-.849***	.763***	-.395	-.701***
Female track	-1.396*	-2.071***	.105	1.009***	2.815***	2.316***
Female track - Ireland	-.584	1.803***	.354	.876*	-1.000***	-1.719***
Female track - female	.756	2.286***	.107	-.260	-.124	-.826***

Table 7a: Social class allocation in Ireland and Scotland

	Service	Non-manual	Petty bourgeoisie	Skilled manual
Constant	-3.314***	-1.090***	-4.384***	-.560***
Ireland	1.039***	.625***	2.562***	.204
Female	.598**	1.670***	-.184	-.812***
Female - Ireland	.045	-.349***	-.171	.015
Time trend:				
1985	-.363	-.187	1.284***	-.362*
1989	.009	-.079	1.410***	-.104
1993	-.144	-.034	1.441***	-.658***
1997	-.418	-.530***	1.213**	-.471**
1985 - Ireland	-.429	-.651***	-1.554***	-.105
1989 - Ireland	-.625*	-.589***	-1.948***	-.209
1993 - Ireland	-.549	-.879***	-1.771***	.027
1997 - Ireland	-.157	-.067	-1.434***	.711***
1985 - female	.142	-.339*	.489	.611***
1989 - female	-.255	-.281	.609	.420*
1993 - female	-.761**	-.244	.525	.532*
1997 - female	-.302	-.141	.902*	.559**
Upper secondary education	1.829***	1.559***	1.105***	.224*
Upper secondary - Ireland	-.655***	-.388***	-.825**	-.062
Upper secondary - female	.598**	-.096	-.230	-.132
Social class:				
Service class	1.437***	.756***	1.140***	.344**
Nonmanual	.806***	.581***	.835***	.170
Petty bourgeoisie	.469***	.049	.671**	-.574
Skilled manual	.475***	.211**	.359	.359***
Unknown	.534**	-.070	.714**	.199
Parental employment	-.128	.196**	-1.013***	.147

Base category: semi/unskilled manual/ agricultural workers; male, Scotland, 1980, left school before upper secondary qualification, semi/unskilled manual class background, neither parent in paid employment.

Table 7b: Social class allocation in Ireland and the Netherlands

	Service	Non-manual	Petty bourgeoisie	Skilled manual
Constant	-1.383***	-.541***	-4.428***	.109
Ireland	-2.440***	-.080	.551	-.553***
Female	.246	1.772***	-.096	-1.033***
Female - Ireland	-.055	-.990***	.410	.266
Time trend:				
1993	-.888***	-.345***	-2.466***	-.487***
1997	-.210*	-.445***	1.664***	-.231**
1993 - Ireland	.144	.188	3.250***	.350
1997 - Ireland	.025	.577***	-.527	.832***
1993 - female	.143	-.141	-.546	-.547***
1997 - female	.216	.040	.534	-.012
Upper secondary education	1.601***	1.161***	1.605***	.568***
Upper secondary - Ireland	.950*	-.293*	-1.276**	-.505***
Upper secondary - female	.729***	.372***	-1.050**	.637***

Base category: semi/unskilled manual/ agricultural workers; male, Netherlands, 1989, left school before upper secondary qualification.

Table 7c: Type of education and social class allocation in Ireland and the Netherlands

	Service	Non-manual	Petty bourgeoisie	Skilled manual
Academic track	.426*	1.312***	.007	-.647***
Academic - Ireland	2.420***	-.381*	-.297	.591**
Academic - female	.269	.029	-.395	.558**
Vocational track	1.706***	1.104***	1.765***	.675***
Vocational - Ireland	.601	-.111	-.836	-.443*
Vocational - female	.840***	.493***	-1.006*	.731***
Of which:				
Male track	1.455***	.454**	2.025***	.768***
Male track - Ireland	.289	-.139	-2.340**	-.311
Male track - female	.490*	.412*	-1.035*	.369
Mixed track	2.098***	2.261***	1.025*	-.113
Mixed track - Ireland	1.164	-.985**	.374	.034
Mixed track - female	.058	.152	-.050	1.164***
Female track	2.493***	1.739***	1.159*	.508**
Female track - Ireland	.542	-.021	-.133	-.809**
Female track - female	.247	-.210	-.855	1.026***

Table 8a: Occupational status in Ireland and Scotland

Variables	*Coefficients*
Constant	32.477***
Ireland	.337
Female	4.226***
Female - Ireland	2.106***
Upper secondary leaver	6.199***
Upper secondary leaver - female	-2.705***
Upper secondary leaver - Ireland	.947*
Time trend:	
1985	-2.026***
1989	-1.615***
1993	-.809
1997	-2.134***
Ireland 1985	-3.198***
Ireland 1989	-3.251***
Ireland 1993	-5.779***
Ireland 1997	-2.549***
Social class:	
Service class	2.673***
Non-manual class	2.073***
Petty bourgeoisie	-.769**
Skilled manual	1.043***
Social class unknown	.328
Parental employment	.872***

Base category: male, Scotland, 1980, left school before upper secondary qualification, semi/unskilled manual class background, neither parent in paid employment.

Table 8b: Occupational status in Ireland and the Netherlands

	Model 1	*Model 2*	*Model 3*
Constant	34.631***	34.543***	35.184***
Ireland	-4.696***	-4.193***	-4.170***
Female	5.096***	5.166***	5.240***
Female - Ireland	.259	-.400	-1.806***
Time trend:			
1993	.021	.104	-.863***
1997	-1.756***	-1.678***	-2.792***
Ireland 1993	-1.669**	-2.017***	-1.300*
Ireland 1997	1.932***	1.527***	2.844***
Upper secondary	5.810***		
Upper sec. - Ireland	.834		
Upper sec. - female	-2.443***		
Academic track		6.526***	5.961***
Academic - Ireland		-1.129	-.794
Academic - female		-.969	-.388
Vocational track		5.796***	
Vocational - Ireland		2.173***	
Vocational - female		-2.862***	
Male track			5.305***
Male track - Ireland			-3.072***
Male track - female			.427
Mixed track			8.774***
Mixed track - Ireland			-.573
Mixed track - female			-.486
Female track			4.241***
Female track - Ireland			6.616***
Female track - female			-4.187***

Base category: male, Netherlands, 1989, left school before upper secondary qualification.